

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

RADIAN MEMORY SYSTEMS LLC,

*Plaintiff,*

v.

SAMSUNG ELECTRONICS CO., LTD.,  
SAMSUNG ELECTRONICS AMERICA, INC.,

*Defendants.*

Case No. 2:24-cv-01073-JRG

**JURY TRIAL DEMANDED**

**DEFENDANTS SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG  
ELECTRONICS AMERICA, INC.'S ANSWER AND AFFIRMATIVE DEFENSES**

Defendants Samsung Electronics Co., Ltd. (“SEC”) and Samsung Electronics America, Inc. (“SEA”) (collectively, “Samsung” or “Defendants”) hereby submit their Answer in response to the Complaint for Patent Infringement (the “Complaint”) filed by Radian Memory Systems (“Radian” or “Plaintiff”) as set forth below.

Samsung denies all allegations in the Complaint unless expressly admitted in the following Paragraphs. Any admissions herein are for purposes of this matter only. Samsung reserves all rights to amend its pleading, including the right to take further positions and raise additional defenses and counterclaims that may become apparent as a result of additional information discovered subsequent to the filing of this Answer. Each Paragraph of the Answer below responds to the corresponding numbered or lettered Paragraph of the Complaint.

## **THE PARTIES<sup>1</sup>**

### **A. Radian**

1. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1 and on that basis denies them.

### **B. Samsung**

2. Samsung admits that it is a corporation organized under the laws of the Republic of Korea with its principal place of business located at 129 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea.

3. Samsung admits that SEA is a wholly-owned subsidiary of SEC. Samsung admits that SEA has a principal place of business at 85 Challenger Road, Ridgefield Park, New Jersey 07660. Samsung admits that it has offices at 6625 Excellence Way, Plano, Texas 75023; 2601 Preston Road, Suite #1214, Frisco, Texas 75034; and 1005 Placid Avenue, Suite #120, Plano, Texas 75074. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

4. Samsung admits that SEA may be served through its registered agent for service of process, CT Corporation System, 1999 Bryant Street, Suite 900, Dallas, Texas 75201.

## **FACTUAL BACKGROUND AND ALLEGATIONS**

5. Paragraph 5 contains no allegations and Samsung therefore is not required to respond. To the extent a response is required, Samsung denies the allegations of Paragraph 5, and

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<sup>1</sup> For ease of reference, Samsung repeats the headings as set forth in the Complaint. In doing so, Samsung makes no admissions regarding the substance of the headings or any other allegations of the Complaint. Unless explicitly stated otherwise, to the extent a particular heading can be construed as an allegation, Samsung specifically denies all such allegations.

specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

6. Paragraph 6 contains no allegations and Samsung therefore is not required to respond. To the extent a response is required, Samsung denies the allegations of Paragraph 6, and specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

#### **A. Overview**

7. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 7 and on that basis denies them. To the extent that the allegations in Paragraph 7 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

8. Samsung admits that Flash SSDs have included an FTL to manage flash memory and communicate with a host system. Samsung is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 8 and on that basis denies them. To the extent that the allegations in Paragraph 8 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

9. Samsung admits that NAND flash memory is a non-volatile media that has specific characteristics and attributes. Samsung is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 9 and on that basis denies them. To the extent that the allegations in Paragraph 9 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

10. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 10 and on that basis denies them. To the extent that the allegations in Paragraph 10 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

11. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 11 and on that basis denies them. To the extent that the allegations in Paragraph 11 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed,

induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

12. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 12 and on that basis denies them. To the extent the allegations in this Paragraph purport to describe one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent that the allegations in Paragraph 12 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

13. Samsung admits that it is a member of the NVMe industry standard organization. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 13 and on that basis denies them.

14. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 14 and on that basis denies them. To the extent the allegations in this Paragraph purport to describe one or more documents or patents, Samsung states that those documents or webpages are the best source of their full content and context. To the extent that the allegations in Paragraph 14 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed,

induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

**B. Background on Conventional Solid-State Drives (“SSDs”)**

15. Samsung denies the allegations of Paragraph 15.

16. Samsung admits that memory devices are used in computing systems to store and access data. Samsung admits that a solid-state drive (“SSD”) is a memory device that includes, among other components, a plurality of flash memory chips where the data is stored. Samsung admits that an SSD contains a memory controller that has responsibilities for memory management. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

17. Samsung admits that, in the context of data storage, the host may be a computer or server which accesses and uses the SSD for data storage and retrieval. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

18. Samsung admits that SSDs have benefits over prior forms of memory devices. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or

webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

19. Samsung admits that SSDs have benefits over prior forms of memory devices. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

20. Samsung admits that an HDD has moving mechanical components. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

21. Samsung admits that an SDD does not have moving mechanical components. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or

services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

22. Samsung admits that SSDs are faster than HDDs in accessing data. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

23. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

24. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.



25. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

26. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

27. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

28. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and

will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

29. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

30. Samsung admits that SSDs are faster than HDDs with respect to IOPS. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

31. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

32. Samsung admits that an SSD may comprise NAND flash memory, a controller and firmware. To the extent the allegations in this Paragraph purport to describe or quote one or more

documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

33. Samsung admits that NAND flash memory may be used for storing data. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

34. Samsung admits that the controller and firmware may interoperate in memory management. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

35. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and

will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

36. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

37. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

38. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

39. Samsung admits that NAND flash memory includes memory cells comprised of floating gate transistors. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the

best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

40. Samsung admits that a cell has a finite lifetime which may be measured in terms of P/E cycles. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

41. Samsung admits that data may be written to or read from NAND cells. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

42. Samsung states that the NVMe specifications speak for themselves.

43. Samsung states that the NVMe specifications speak for themselves.

44. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung

products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

45. Samsung admits that SSDs may use an FTL for logical to physical translation. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

46. Samsung admits that an FTL may contain a table including mapping information regarding physical locations. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

47. Samsung admits than an FTL may be stored in an SSD. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery

in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

48. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

49. Samsung admits than an FTL table may be stored in an SSD. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

50. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

51. Samsung admits that NAND storage may include scrubbing process. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages,

Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

52. Samsung admits that data may be stored in NAND cells. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

53. Samsung admits that NAND storage may include wear-leveling and garbage collection functionalities. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

54. Samsung admits that garbage collection algorithms may preemptively prepare fresh storage space to consolidate valid data and make space for new writes. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the



extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

55. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

56. Samsung admits that over-provisioning is the allocation of extra storage space for SSDs. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

57. Samsung admits that over-provisioning is the allocation of extra storage space for SSDs. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be

subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

58. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

59. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

60. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

61. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung

products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

62. Admitted.

63. Admitted.

64. Admitted.

65. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

66. Samsung admits that it has knowledge of the components in SSDs manufactured by Samsung. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

67. Samsung admits that it has knowledge of the components in enterprise SSDs manufactured by Samsung. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe

Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

68. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

69. Admitted.

70. Admitted.

71. Admitted.

72. Admitted.

73. Admitted.

74. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

75. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung

products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

76. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

77. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

78. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

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83. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

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85. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

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will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

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88. To the extent Radian alleges that every NAND page must have a parity bit, Samsung denies this allegation. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

89. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

90. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best



source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

91. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

92. Samsung admits that “bad blocks” may be created during read, program, or erase operations and may be managed for SSD performance. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

93. Samsung admits that “bad blocks” may be identified during read, program, or erase operations and may be managed for SSD performance. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those

products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

94. Samsung admits that “bad blocks” may be marked during read, program, or erase operations and may be managed for SSD performance. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

95. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

96. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

97. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

98. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

99. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

100. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

101. Samsung admits that maintenance procedures like wear-leveling and garbage collection help ensure that an SSD performs well over extended use. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

102. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

103. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

104. Samsung admits that over-provisioning is a method for improving SSD performance. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

105. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

106. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

107. Admitted.

108. Admitted.

109. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and

will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

110. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

111. Samsung admits that erase actions may be carried out at the block level. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

112. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

113. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

114. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

115. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

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117. Samsung admits that write amplification may refer to the phenomenon by which physical NAND writes outnumber logical write requests from the host. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

118. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

119. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

120. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung



products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

121. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

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123. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

124. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

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126. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

127. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

128. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

129. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

130. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

131. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and

will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

132. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

133. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

134. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

135. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung

products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

136. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

137. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

138. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

139. Samsung admits that Samsung designs and manufactures major components of Samsung's SSD products. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

140. Samsung admits that Samsung designs and manufactures major components of Samsung's SSD products. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

**C. Over-provisioning in Conventional SSDs**

141. Samsung denies the allegations of Paragraph 141.

142. Samsung admits that over-provisioning is a method for improving SSD performance. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

143. Admitted.

144. Admitted.

145. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

146. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

147. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

148. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

149. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and

will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

150. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

151. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

152. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

153. Admitted.

154. Admitted

155. Admitted.



156. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 156 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 156.

157. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 157 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 157.

158. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 158 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 158.

159. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 159 because they are vague and indefinite,

including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 159.

160. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 160 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 160.

161. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 161 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 161.

162. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 162 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 162.

163. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form

a belief as to the truth of the allegations of Paragraph 163 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 163.

164. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 164 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 164.

165. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 165 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 165.

166. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 166 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 166.

167. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact

and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 167 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 167.

168. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 168 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 168.

169. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 169 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 169.

170. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 170 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 170.

171. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 171 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 171.

172. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 172 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 172.

173. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 173 because they are vague and indefinite, including in their use of undefined terms such as “with an over-provisioning ratio of” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 173.

#### **D. Performance Measurements of SSDs**

174. The conversion of units (MB, GB, etc.) speaks for themselves. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 174 and on that basis denies them.

175. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

176. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

177. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

178. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

179. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

180. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

181. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

182. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and

will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

183. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

184. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

185. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

186. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung



products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

187. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

188. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

189. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

190. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung admits that in some instances latency can be reported in microseconds ( $\mu$ s) or milliseconds (ms). Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

191. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

192. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

193. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required,

Samsung admits that in some instances bandwidth can be defined as the amount of data that can be transferred in a given time. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

194. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung admits that in some instances bandwidth can be reported in megabytes per second (MB/s) or gigabytes per second (GB/s). Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

**E. Zoned Namespaces (“ZNS”)**

195. Samsung admits that representatives from Microsoft gave a presentation titled, “DENALI: The Next-Generation High-Density Storage Interface.” Samsung also admits that working group(s) from the NVM Express (“NVMe”) organization helped develop the ZNS specification. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 195 and on that basis denies them.

196. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

197. Samsung states that the NVMe specifications speak for themselves.

198. Samsung states that the NVMe specifications speak for themselves.
199. Samsung states that the NVMe specifications speak for themselves.
200. Samsung states that the NVMe specifications speak for themselves.
201. Samsung states that the NVMe specifications speak for themselves.
202. Samsung states that the NVMe specifications speak for themselves.
203. Samsung states that the NVMe specifications speak for themselves.
204. Samsung states that the NVMe specifications speak for themselves.
205. Samsung states that the NVMe specifications speak for themselves.
206. Samsung states that the NVMe specifications speak for themselves.
207. Samsung states that the NVMe specifications speak for themselves.
208. Samsung states that the NVMe specifications speak for themselves.
209. Samsung states that the NVMe specifications speak for themselves.
210. Samsung states that the NVMe specifications speak for themselves.
211. Samsung states that the NVMe specifications speak for themselves.
212. Samsung states that the NVMe specifications speak for themselves.
213. Samsung states that the NVMe specifications speak for themselves.
214. Samsung states that the NVMe specifications speak for themselves.
215. Samsung states that the NVMe specifications speak for themselves.
216. Samsung states that the NVMe specifications speak for themselves.
217. Samsung states that the NVMe specifications speak for themselves.
218. Samsung states that the NVMe specifications speak for themselves.
219. Samsung states that the NVMe specifications speak for themselves.
220. Samsung states that the NVMe specifications speak for themselves.

221. Samsung states that the NVMe specifications speak for themselves.

222. Samsung states that the NVMe specifications speak for themselves.

223. Samsung states that the NVMe specifications speak for themselves.

**F. Radian's Innovations**

224. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 224 and on that basis denies them. To the extent that the allegations in Paragraph 224 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

225. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 225 and on that basis denies them. To the extent that the allegations in Paragraph 225 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

226. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 226 and on that basis denies them. To the extent that the allegations in Paragraph 226 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

227. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 227 and on that basis denies them. To the extent that the allegations in Paragraph 227 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

228. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 228 and on that basis denies them. To the extent that the allegations in Paragraph 228 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

229. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 229 and on that basis denies them. To the extent that the allegations in Paragraph 229 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

230. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 230 and on that basis denies them. To the extent that the allegations in Paragraph 230 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

231. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 231 and on that basis denies them. To the extent that the allegations in Paragraph 231 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

232. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 232 and on that basis denies them. To the extent that the allegations in Paragraph 232 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

233. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 233 and on that basis denies them. To the extent that the allegations in Paragraph 233 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

234. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 234 and on that basis denies them. To the extent that the

allegations in Paragraph 234 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

235. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 235 and on that basis denies them. To the extent that the allegations in Paragraph 235 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

236. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 236 and on that basis denies them. To the extent that the allegations in Paragraph 236 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

237. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 237 and on that basis denies them. To the extent that the allegations in Paragraph 237 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

238. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 238 and on that basis denies them. To the extent that the allegations in Paragraph 238 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

239. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 239 and on that basis denies them. To the extent that the allegations in Paragraph 239 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

240. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 240 and on that basis denies them. To the extent that the allegations in Paragraph 240 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

241. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 241 and on that basis denies them. To the extent that the allegations in Paragraph 241 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

242. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 242 and on that basis denies them. To the extent that the allegations in Paragraph 242 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

243. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 243 and on that basis denies them. To the extent that the allegations in Paragraph 243 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

**G. Radian and Samsung**

244. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 244 and on that basis denies them.

245. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 245 and on that basis denies them.

246. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 246 and on that basis denies them.



247. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 247 and on that basis denies them.

248. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 248 and on that basis denies them.

249. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 249 and on that basis denies them.

250. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 250 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 250.

251. Paragraph 251 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 251 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 251.

252. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 252 and on that basis denies them.

253. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 253 and on that basis denies them.

254. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 254 and on that basis denies them.

255. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 255 and on that basis denies them.

256. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 256 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 256.

257. Paragraph 257 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 257 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 257.

258. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 258 and on that basis denies them.

259. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 259 and on that basis denies them.

260. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 260 and on that basis denies them.

261. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 261 and on that basis denies them.

262. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 262 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 262.

263. Paragraph 263 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form

a belief as to the truth of the allegations of Paragraph 263 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 263.

264. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 264 and on that basis denies them.

265. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 265 and on that basis denies them.

266. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 266 and on that basis denies them.

267. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 267 and on that basis denies them.

268. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 268 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 268.

269. Paragraph 269 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 269 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 269.

270. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 270 and on that basis denies them.

271. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 271 and on that basis denies them.

272. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 272 and on that basis denies them.

273. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 273 and on that basis denies them.

274. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 274 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 274.

275. Paragraph 275 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 275 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 275.

276. Admitted.

277. Admitted.

278. Admitted.

279. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 279 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 279.

280. Paragraph 280 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 280 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 280.

281. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 281 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 281.

282. Paragraph 282 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 282 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 282.

283. Samsung denies the allegations of Paragraph 283.

284. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 284 and on that basis denies them.

285. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 285 and on that basis denies them.

286. Samsung admits that Samsung was a member of the NVM Express community when the ZNS specification was published. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

287. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 287 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 287.

288. Paragraph 288 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 288 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 288.

289. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 289 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 289.

290. Paragraph 290 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 290 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 290.

291. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 291 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 291.

292. Paragraph 292 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 292 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 292.

293. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 293 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 293.

294. Paragraph 294 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 294 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 294.

295. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 295 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 295.

296. Paragraph 296 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 296 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 296.

297. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 297 and on that basis denies them.

298. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 298 and on that basis denies them.

299. Paragraph 299 alleges legal conclusions, and therefore, no response is required. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

300. Paragraph 300 alleges legal conclusions, and therefore, no response is required. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

301. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 301 and on that basis denies them.

302. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 302 and on that basis denies them.

303. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 303 and on that basis denies them.

304. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 304 and on that basis denies them.

305. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 305 and on that basis denies them.



306. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 306 and on that basis denies them.

307. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 307 and on that basis denies them.

308. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 308 and on that basis denies them. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case.

309. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 309 and on that basis denies them.

310. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 310 and on that basis denies them. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case.

311. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 311 and on that basis denies them.

312. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 312 and on that basis denies them. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case.

313. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 311 and on that basis denies them.

314. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 314 and on that basis denies them.

315. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 315 and on that basis denies them.

316. Samsung admits that it is not a party to an express bilateral license agreement between Samsung and Radian. Samsung denies the remainder of the allegations of Paragraph 316.

317. Paragraph 317 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 317.

318. Paragraph 318 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 318.

319. Paragraph 319 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 319.

#### **H. Samsung and ZNS**

320. Samsung admits that Exhibit L purport to be an article from Samsung's website. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

321. Samsung admits that Exhibit L, which purports to be an article from Samsung's website, includes a quote from Sangyeun Cho, senior vice president of the Memory Software Development Team at Samsung Electronics. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

322. Samsung admits that Exhibit L, which purports to be an article from Samsung's website, includes a quote from Sangyeun Cho, senior vice president of the Memory Software Development Team at Samsung Electronics. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

323. Samsung admits that Exhibit L purports to be an article from Samsung's website. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

324. Samsung admits that Exhibit L purports to be an article from Samsung's website. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

325. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

326. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. To the extent a response is required, Samsung denies the remainder of the allegations in this Paragraph.

327. Samsung denies the allegations of Paragraph 327.

328. Samsung denies the allegations of Paragraph 328.

329. Samsung denies the allegations of Paragraph 329.

330. Samsung denies the allegations of Paragraph 330.

331. Samsung denies the allegations of Paragraph 331.

332. Samsung denies the allegations of Paragraph 332.

333. Samsung denies the allegations of Paragraph 333.

334. Samsung denies the allegations of Paragraph 334.

335. Samsung denies the allegations of Paragraph 335.

336. Samsung denies the allegations of Paragraph 336.

337. Samsung denies the allegations of Paragraph 337.

338. Samsung denies the allegations of Paragraph 338.

339. Samsung denies the allegations of Paragraph 339.

340. Samsung denies the allegations of Paragraph 340.

341. Samsung denies the allegations of Paragraph 341.

342. Samsung denies the allegations of Paragraph 342.

343. Samsung denies the allegations of Paragraph 343.

- 344. Samsung denies the allegations of Paragraph 344.
- 345. Samsung denies the allegations of Paragraph 345.
- 346. Samsung denies the allegations of Paragraph 346.
- 347. Samsung denies the allegations of Paragraph 347.
- 348. Samsung denies the allegations of Paragraph 348.
- 349. Samsung denies the allegations of Paragraph 349.
- 350. Samsung denies the allegations of Paragraph 350.
- 351. Samsung denies the allegations of Paragraph 351.
- 352. Samsung denies the allegations of Paragraph 352.
- 353. Samsung denies the allegations of Paragraph 353.
- 354. Samsung denies the allegations of Paragraph 354.
- 355. Samsung denies the allegations of Paragraph 355.
- 356. Samsung denies the allegations of Paragraph 356.
- 357. Samsung denies the allegations of Paragraph 357.
- 358. Samsung denies the allegations of Paragraph 358.
- 359. Samsung denies the allegations of Paragraph 359.
- 360. Samsung denies the allegations of Paragraph 360.
- 361. Samsung denies the allegations of Paragraph 361.
- 362. Samsung denies the allegations of Paragraph 362.
- 363. Samsung denies the allegations of Paragraph 363.
- 364. Samsung denies the allegations of Paragraph 364.
- 365. Samsung denies the allegations of Paragraph 365.
- 366. Samsung denies the allegations of Paragraph 366.

- 367. Samsung denies the allegations of Paragraph 367.
- 368. Samsung denies the allegations of Paragraph 368.
- 369. Samsung denies the allegations of Paragraph 369.
- 370. Samsung denies the allegations of Paragraph 370.
- 371. Samsung denies the allegations of Paragraph 371.
- 372. Samsung denies the allegations of Paragraph 372.
- 373. Samsung denies the allegations of Paragraph 373.
- 374. Samsung denies the allegations of Paragraph 374.
- 375. Samsung denies the allegations of Paragraph 375.
- 376. Samsung denies the allegations of Paragraph 376.
- 377. Samsung denies the allegations of Paragraph 377.
- 378. Samsung denies the allegations of Paragraph 378.
- 379. Samsung denies the allegations of Paragraph 379.
- 380. Samsung denies the allegations of Paragraph 380.

**I. Radian's Prevalence in Samsung's Patent Prosecution**

381. Samsung admits that Radian's patent applications, patent application publications, and issued patents have been cited during prosecution of one or more of Samsung's patent applications. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

382. Samsung admits that Radian's patent applications, patent application publications, and issued patents have been cited during prosecution of one or more of Samsung's patent applications. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

383. Samsung admits that Radian's patent applications, patent application publications, and issued patents have been cited during prosecution of one or more of Samsung's patent applications. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

384. Admitted.

385. Samsung denies the allegation of Paragraph 385.

386. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited against the '689 Application during prosecution. Samsung denies that the '183 and '376 Patents were duly and legally issued.

387. Admitted.

388. Samsung admits that U.S. Pat. Pub. No. 2014/0215129 was cited by Samsung during prosecution of Samsung's '770 Patent. Samsung admits that U.S. Pat. Pub. No. 2014/0215129 is the published application of U.S. Pat. App. No. 13/767,723. Samsung denies that the '376 Patent was duly and legally issued.

389. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the U.S. Pat. Pub. No. 2014/0215129 was cited by Samsung during prosecution of Samsung's '770 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued .

390. Admitted.

391. Admitted.

392. Samsung admits that U.S. Pat. Pub. No. 2014/0215219 is the published application of U.S. Pat. App. No. 13/767,723. Samsung denies that the '376 Patent was duly and legally issued.

393. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the U.S. Pat. Pub. No. 2014/0215219 was cited by Samsung during prosecution of Samsung's '010 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued .

394. Admitted.

395. Samsung denies the allegations of Paragraph 395.

396. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '324 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

397. Admitted.

398. Admitted.

399. Samsung admits that U.S. Pat. No. 9,400,749 claims it is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376).



Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '749 Patent was cited by Samsung during prosecution of Samsung's '138 Patent. Samsung denies that the '183, '376, and '749 Patents were duly and legally issued.

400. Admitted.

401. Samsung denies the allegations of Paragraph 401.

402. Admitted.

403. Samsung admits that U.S. Pat. No. 9,229,854 claims it is a continuation-in-part of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '854 Patent was cited by Samsung during prosecution of Samsung's '772 Application. Samsung denies that the '854 and '376 Patents were duly and legally issued.

404. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '772 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

405. Samsung admits that the USPTO issued Pat. No. 10,254,998 on April 9, 2019, entitled "Coordinated garbage collection of flash devices in a distributed storage system." Samsung denies that the U.S. Pat. App. No. 15/046,435 was filed in 2017.

406. Samsung denies the allegations of Paragraph 406.

407. Samsung admits that U.S. Pat. No. 9,229,854 claims it is a continuation-in-part of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that U.S. Pat. Pub. No. 2014/0215129 purports to be the published application of U.S. Pat. No. 9,652,376. Samsung denies that the '129 Publication and '854 Patent were cited against Samsung during the prosecution of Samsung's '998 Patent. Samsung denies that the '376 and '854 Patents were duly and legally issued.

408. Samsung denies the allegations of Paragraph 408.

409. Admitted.

410. Admitted.

411. Samsung denies that the '129 Publication was cited against Samsung's '435 Application during prosecution. Samsung admits that U.S. Pat. Pub. No. 2014/0215129 is the published application of the '376 Patent. Samsung denies that the '376 Patent was duly and legally issued.

412. Samsung admits that U.S. Pat. No. 9,229,854 claims it is a continuation-in-part of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '854 Patent was cited against Samsung's '435 Application during prosecution.

413. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '129 Publication was cited against Samsung's '435 Application during prosecution. Samsung denies that the '183 and '376 Patents were duly and legally issued.

414. Admitted.

415. Admitted.

416. Samsung admits that the '719 Publication was the published application of U.S. Pat. App. No. 14/466,167. Samsung admits that the '719 Publication was cited by Samsung during the prosecution of Samsung's '642 Patent. Samsung denies that the '454 Patent was duly and legally issued.

417. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167 (issued on Aug. 8, 2017 as U.S. Pat. No. 9,727,454). Samsung denies that the '183 and '454 Patents were duly and legally issued. Samsung denies that the '304 patent was issued on June 4, 2018.

418. Samsung admits that the U.S. Pat. App. No. 14/941,512 was filed on November 13, 2015 and was issued as the '304 patent. Samsung denies that the '304 patent was issued on June 4, 2018.

419. Admitted.

420. Samsung admits that the '719 publication is the published application of the '454 Patent. Samsung denies that the '454 Patent was duly and legally issued.

421. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167 (issued on Aug. 8, 2017 as U.S. Pat. No. 9,727,454). Samsung denies that the '183 and '454 Patents were duly and legally issued.

422. Admitted.

423. Admitted.

424. Samsung admits that the '719 Publication is the published application of the '454 Patent. Samsung denies that the '454 Patent was duly and legally issued.

425. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167 (issued on Aug. 8, 2017 as U.S. Pat. No. 9,727,454). Samsung denies that the '183 and '454 Patents were duly and legally issued.

426. Admitted.

427. Admitted.

428. Samsung admits that Samsung cited the '719 Publication during the prosecution of Samsung's '028 Patent. Samsung denies that the '454 Patent was duly and legally issued.

429. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167 (issued on Aug. 8, 2017 as U.S. Pat. No. 9,727,454). Samsung denies that the '183 and '454 Patents were duly and legally issued.

430. Admitted.

431. Admitted.

432. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

433. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication

was cited by Samsung during the prosecution of Samsung's '051 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

434. Admitted.

435. Admitted.

436. Samsung admits that the '129 Publication was the published application of the '723 Patent. Samsung denies that the '376 Patent was duly and legally issued.

437. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited by Samsung during the prosecution of Samsung's '719 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

438. Admitted.

439. Admitted.

440. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

441. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited by Samsung during the prosecution of Samsung's '450 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

442. Admitted.

443. Admitted.

444. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

445. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited by Samsung during the prosecution of Samsung's '159 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

446. Admitted.

447. Admitted.

448. Samsung admits that the '129 Publication was the published application for the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

449. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited by Samsung during the prosecution of Samsung's '076 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

450. Admitted.

451. Admitted.

452. Samsung admits that U.S. Pat. No. 9,400,749 claims it is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376).

Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '749 Patent was cited by Samsung during prosecution of Samsung's '659 Patent. Samsung denies that the '183, '376, and '749 Patents were duly and legally issued.

453. Admitted.

454. Admitted.

455. Samsung admits that U.S. Pat. No. 9,400,749 claims it is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '749 Patent was cited by Samsung during prosecution of Samsung's '258 Patent. Samsung denies that the '183, '376, and '749 Patents were duly and legally issued.

456. Admitted.

457. Admitted.

458. Samsung admits that U.S. Pat. No. 9,400,749 claims it is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16,

2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '749 Patent was cited by Samsung during prosecution of Samsung's '496 Patent. Samsung denies that the '183, '376, and '749 Patents were duly and legally issued.

459. Admitted.

460. Samsung denies the allegations of Paragraph 460.

461. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited by Samsung during the prosecution of Samsung's '123 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

462. Admitted.

463. Admitted.

464. Samsung admits that U.S. Pat. No. 9,400,749 claims it is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '749 Patent was cited by Samsung during the prosecution of Samsung's '041 Patent. Samsung denies that the '183, '376, and '749 Patents were duly and legally issued.

465. Samsung denies that U.S. Pat. App. No. 15/481,147 issued on April 6, 2017.

466. Admitted.



467. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

468. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited by Samsung during the prosecution of Samsung's '687 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

469. Admitted.

470. Samsung denies the allegations of Paragraph 470.

471. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '690 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

472. Admitted.

473. Samsung denies the allegations of Paragraph 473.

474. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was

cited during prosecution of the '631.5 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

475. Samsung denies the allegations of Paragraph 475.

476. Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 state they are continuations of U.S. Pat. No. 9,542,118. Samsung denies that the '118 Patent was cited during prosecution of the '631.5 Application. Samsung denies that the '657, '656, and '118 Patents were duly and legally issued.

477. Samsung denies the allegations of Paragraph 477.

478. Samsung admits that U.S. Pat. No. 10,552,058 claims priority to U.S. Provisional Patent Application No. 62/199,970, to U.S. Provisional patent Application No. 62/199,969, and to U.S. Provisional Patent Application No. 62/194,172. Samsung denies that the '058 Patent was duly and legally issued.

479. Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 claim the benefit of U.S. Prov. Pat. App. No. 62/199,969 and U.S. Prov. Pat. App. No. 62/194,172. Samsung denies that the '657, '656, and '118 Patents were duly and legally issued.

480. Admitted.

481. Samsung denies the allegations of Paragraph 481.

482. Samsung admits that the U.S. Pat. No. 9,229,854 claims to be a continuation-in-part of application No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '854 Patent was cited during prosecution of the '983 Patent. Samsung denies that the '854 and '376 Patents were duly and legally issued.

483. Samsung denies the allegations of Paragraph 483.

484. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '197.2 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

485. Admitted.

486. Admitted.

487. Samsung admits that U.S. Pat. No. 11,354,234 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,665,376). Samsung denies that the '234 Patent was cited against Samsung's '684 Application. Samsung denies that the '234 and '376 Patents were duly and legally issued.

488. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '183 and '376 Patents were duly and legally issued.

489. Admitted.

490. Admitted.

491. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

492. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited by Samsung during the prosecution of Samsung's '918 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

493. Admitted.

494. Admitted.

495. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

496. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited against Samsung's '634 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

497. Admitted.

498. Admitted.

499. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

500. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723

(issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited against Samsung's '210 Patent during prosecution. Samsung denies that the '183 and '376 Patents were duly and legally issued.

501. Admitted.

502. Samsung denies the allegations of Paragraph 502.

503. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '991 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

504. Admitted.

505. Admitted.

506. Samsung admits that U.S. Pat. No. 10,642,505 claims it is a continuation in-part of U.S. patent application Ser. No. 14 / 047,193, which in turn is a continuation in-part of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '505 Patent was cited against Samsung's '399 Application during prosecution. Samsung denies that the '505 and '376 Patents were duly and legally issued.

507. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '183 and '376 Patents were duly and legally issued.

508. Admitted.

509. Samsung admits that U.S. Pat. No. 11,347,639 claims to be a continuation of application No. 14/466,167, filed on Aug. 22, 2014, now Pat. No. 9,727,454, which is a continuation of application No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '639 Patent was cited against Samsung's '399 Application during prosecution. Samsung denies that the '639 and '376 Patents were duly and legally issued.

510. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '183 and '376 Patents were duly and legally issued.

511. Admitted.

512. Samsung admits that U.S. Pat. No. 11,275,695 claims to be a continuation of U.S. Utility patent application Ser. No. 15/690,006 (issued on May 5, 2020 as U.S. Pat. No. 10,642,748). Samsung denies that the '695 Patent was cited against Samsung's '399 Application during prosecution. Samsung denies that the '695 and '748 Patents were duly and legally issued.

513. Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 claim to be continuations of U.S. Utility patent application Ser. No. 16/808,304, which in turn is a continuation of U.S. Utility patent application Ser. No. 15/690,006 (issued on May 5, 2020 as U.S. patent Ser. No. 10/642,748). Samsung denies that the '656, '657, '995, and '748 Patents were duly and legally issued.

514. Samsung denies that U.S. Pat. App. No. 18/099,246 published on December 1, 2022.

515. Admitted.

516. Samsung admits that '719 Publication purports to be the published application of U.S. Pat. Appl. No. 14/466,167. Samsung denies that the '719 Publication was cited against Samsung's '246 Application during the prosecution. Samsung denies that the '454 Patent was duly and legally issued.

517. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167 (issued on Aug. 8, 2017 as U.S. Pat. No. 9,727,454). Samsung denies that the '183 and '454 Patents were duly and legally issued.

518. Samsung denies that Samsung filed Korea Pat. App. No. 10-2013-0146321, that Korea Pat. App. No. 10-2013-0146321 issued as Korea Pat. App. No. 10-2103543, and that Korean Pat. App. No. 10-2103543 issued on May 29, 2015.

519. Samsung denies the allegations of Paragraph 519.

520. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '321 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

521. Admitted.

522. Samsung denies the allegations of Paragraph 522.

523. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application

Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited against Samsung's '245 Application during prosecution. Samsung denies that the '183 and '376 Patents were duly and legally issued.

524. Samsung denies that Korean Pat. App. No. 10-2014-0107128 was filed on August 18, 2018.

525. Samsung denies the allegations of Paragraph 525.

526. Samsung admits that the U.S. Pat. No. 9,229,854 claims priority to U.S. Utility patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '854 Patent was cited during prosecution of the '128 Application. Samsung denies that the '854 and '376 Patents were duly and legally issued.

527. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited against Samsung's '128 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

528. Admitted.

529. Admitted.

530. Samsung admits that the '129 Publication was the published application of the '723 Application. Samsung denies that the '376 Patent was duly and legally issued.

531. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application



Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung admits that the '129 Publication was cited against Samsung's '741 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

532. Admitted.

533. Samsung denies the allegations of Paragraph 533.

534. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '611 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

535. Admitted.

536. Samsung denies the allegations of Paragraph 536.

537. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '430 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

538. Admitted.

539. Samsung denies the allegations of Paragraph 539.

540. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '140 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

541. Samsung denies the allegations of Paragraph 541.

542. Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 claim to be continuations of U.S. Utility patent application Ser. No. 16/808,304, which in turn is a continuation of U.S. Utility patent application Ser. No. 15/690,006, which in turn is a continuation of U.S. Utility Patent application Ser. No. 15/074,778, which in turn, is a continuation of U.S. Utility patent application Ser. No. 14/880/529 (issued on Jan. 10, 2017 as U.S. Pat. No. 9,542,118). Samsung denies that the '118 Patent was cited during prosecution of the '140 Patent. Samsung denies that the '656, '657, '995, and '118 Patents were duly and legally issued.

543. Admitted.

544. Samsung denies the allegations of Paragraph 544.

545. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent is cited during prosecution of the '346 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

546. Admitted.

547. Samsung denies the allegations of Paragraph 547.

548. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during prosecution of the '649 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

549. Admitted.

550. Samsung denies the allegations of Paragraph 550.

551. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited against Samsung's '655 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

552. Admitted.

553. Samsung denies the allegations of Paragraph 553.

554. Samsung admits that the U.S. Pat. No. 9,229,854 claims priority to U.S. Utility patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '854 Patent was cited during prosecution of the '347 Application. Samsung denies that the '854 and '376 Patents were duly and legally issued.

555. Samsung denies the allegations of Paragraph 555.

556. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during the prosecution of the '347 Patent. Samsung denies that the '183 and '376 Patents were duly and legally issued.

557. Admitted.

558. Samsung denies the allegations of Paragraph 558.

559. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during the prosecution of the '348 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

560. Admitted.

561. Samsung denies the allegations of Paragraph 561.

562. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during the prosecution of the '001 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

563. Samsung denies the allegations of Paragraph 563.

564. Samsung admits that U.S. Pat. No. 10,552,058 claims priority to U.S. Provisional Patent Application No. 62/199,970, to U.S. Provisional patent Application No. 62/199,969, to U.S. Provisional Patent Application No. 62/194,172, and to U.S. Provisional Patent Application No. 62/241,429. Samsung admits that U.S. Pat. Nos. 11,347,656, 11,347,657, and 11,307,995 are related to U.S. Provisional patent Application Nos. 62/199,969 and 62/194,172. Samsung denies that the '058 Patent was cited during prosecution of the '001 Application. Samsung denies that the '058, '656, '657 and '995 Patents were duly and legally issued.

565. Admitted.

566. Samsung denies the allegations of Paragraph 566.

567. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during the prosecution of the '806 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

568. Admitted.

569. Samsung denies the allegations of Paragraph 569.

570. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during the prosecution of the '053 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

571. Admitted.

572. Samsung denies the allegations of Paragraph 572.

573. Samsung admits that U.S. Pat. No. 11,544,183 claims it is a continuation of U.S. patent application Ser. No. 15/625,931, which in turn is a continuation of U.S. patent application Ser. No. 14/466,167, which in turn is a continuation of U.S. patent application Ser. No. 13/767,723 (issued on May 16, 2017 as U.S. Pat. No. 9,652,376). Samsung denies that the '376 Patent was cited during the prosecution of the '516 Application. Samsung denies that the '183 and '376 Patents were duly and legally issued.

574. Admitted.

575. Samsung denies the allegations of Paragraph 575.

576. Samsung admits that U.S. Pat. No. 11,709,772 claims it is a continuation of U.S. application Ser. No. 17/563,481, which in turn is a continuation of U.S. application Ser. No. 16/751,925, which in turn is a continuation of U.S. application Ser. No. 16/570,922, which in turn is a continuation of U.S. application Ser. No. 15/621,888 (issued on Oct. 15, 2019 as U.S. patent Ser. No. 10/445,229). Samsung admits that U.S. Pat. No. 11,681,614 claims it is a continuation of U.S. patent application Ser. No. 17/563,481, which is a continuation of U.S. patent application Ser. No. 16/751,925, which is a continuation of U.S. patent application Ser. No. 16/570,922, which is a continuation of U.S. patent application Ser. No. 15/621,888, (issued on Oct. 15, 2019 as U.S. Pat. No. 10,445,229). Samsung denies that the '229 Patent was cited against Samsung's '008 Application during prosecution. Samsung denies that the '772, '614, and '229 Patents were duly and legally issued.

577. Admitted.

578. Samsung denies the allegations of Paragraph 578.

579. Samsung admits that U.S. Pat. No. 11,709,772 claims it is a continuation of U.S. application Ser. No. 17/563,481, which in turn is a continuation of U.S. application Ser. No. 16/751,925, which in turn is a continuation of U.S. application Ser. No. 16/570,922, which in turn is a continuation of U.S. application Ser. No. 15/621,888 (issued on Oct. 15, 2019 as U.S. patent Ser. no. 10/445,229). Samsung admits that U.S. Pat. No. 11,681,614 claims it is a continuation of U.S. patent application Ser. No. 17/563,481, which is a continuation of U.S. patent application Ser. No. 16/751,925, which is a continuation of U.S. patent application Ser. No. 16/570,922, which is a continuation of U.S. patent application Ser. No. 15/621,888, (issued on Oct. 15, 2019 as U.S. Pat. No. 10,445,229). Samsung denies that the '229 Patent was cited during prosecution of the '516 Application. Samsung denies that the '772, '614, and '229 Patents were duly and legally issued.

580. Admitted.

581. Admitted.

582. Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 claim to be continuations of U.S. Utility patent application Ser. No. 16/808,304, which in turn is a continuation of U.S. Utility patent application Ser. No. 15/690,006, which in turn is a continuation of U.S. Utility Patent application Ser. No. 15/074,778 (issued on Oct. 10, 2017 as U.S. Pat. No. 9,785,572). Samsung admits that the '572 Patent was cited by Samsung during the prosecution of Samsung's '394 Patent. Samsung denies that the '656, '657, '995, and '572 Patents were duly and legally issued.

583. Admitted.

584. Admitted.

585. Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 claim to be continuations of U.S. Utility patent application Ser. No. 16/808,304, which in turn is a continuation of U.S. Utility patent application Ser. No. 15/690,006, which in turn is a continuation of U.S. Utility Patent application Ser. No. 15/074,778, which in turn is a continuation of U.S. Utility patent application Ser. No. 14/880,529 (issued on Jan. 10, 2017, as U.S. Pat. No. 9,542,118). Samsung denies that the '118 Patent was cited against Samsung's '200 Application during prosecution. Samsung denies that the '656, '657, '995, and '118 Patents were duly and legally issued.

586. Admitted.

587. Samsung admits that U.S. Pat. No. 10,552,058 claims priority to U.S. Prov. Pat. App. No. 62/199,969 and U.S. Prov. Pat. App. No. 62/194,172; Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 claim to be continuations of U.S. Utility patent application Ser. No. 16/808,304, which in turn is a continuation of U.S. Utility patent application Ser. No. 15/690,006, which in turn is a continuation of U.S. Utility Patent application Ser. No. 15/074,778, which in turn is a continuation of U.S. Utility patent application Ser. no. 14/880,529, which in turn claims the benefit of: U.S. Provisional Patent Application Nos. 62/199,969 and 62/194,172. Samsung denies that the '058 Patent was cited against Samsung's '200 Application during prosecution. Samsung denies that the '058, '656, '657, and '995 Patents were duly and legally issued.

588. Admitted.

589. Samsung denies the allegations of Paragraph 589.

590. Samsung admits that U.S. Pat. Nos. 11,307,995, 11,347,657, and 11,347,656 claim to be continuations of U.S. Utility patent application Ser. No. 16/808,304, which in turn is a



continuation of U.S. Utility patent application Ser. No. 15/690,006, which in turn is a continuation of U.S. Utility Patent application Ser. No. 15/074,778, which in turn is a continuation of U.S. Utility patent application Ser. no. 14/880,529 (issued on Jan. 10, 2017, as U.S. Pat. no. 9,542,118). Samsung denies that the '118 Patent was cited against Samsung's '562 Patent during prosecution. Samsung denies that the '656, '657, '995, and '118 Patents were duly and legally issued.

#### **J. Samsung Entity Relationships**

591. Samsung admits that SEC is one entity of the Samsung Group, a South Korean chaebol comprised of approximately 63 affiliated companies as of 2023. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

592. Samsung admits that SEC is one of the world's largest manufacturer of semiconductor memory and is a manufacturer of consumer electronics, electronic components, and semiconductors. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

593. Samsung admits that SEA is a wholly owned subsidiary of SEC. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

594. Samsung admits that SEA is involved with domestic sales and distribution of Samsung's consumer electronics products. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

595. Samsung admits that SEA is involved with domestic sales and distribution of Samsung's consumer electronics products. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

596. Samsung admits that SEA is involved with domestic sales and distribution of Samsung's consumer electronics products. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

597. Samsung admits that SEA is involved with domestic sales and distribution of Samsung's consumer electronics products. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

598. Samsung admits that SEC designs, manufactures, or provides to the United States and other markets hardware and software products and services, including consumer electronics, mobile phones, handheld devices, tablets, laptops and other personal computers, storage devices, televisions, and electronic devices. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

599. Samsung admits that SEC designs, manufactures, or provides to the United States and other markets hardware and software products and services, including consumer electronics, mobile phones, handheld devices, tablets, laptops and other personal computers, storage devices, televisions, and electronic devices. Samsung admits that SEA is involved with domestic sales and distribution of Samsung's consumer electronics products. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

600. Admitted.

601. To the extent Paragraph 601 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies Paragraph 601.

602. Samsung denies the allegations of Paragraph 602.

603. Samsung denies the allegations of Paragraph 603.

604. To the extent Paragraph 604 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies Paragraph 604.

605. To the extent Paragraph 605 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies Paragraph 605.

606. To the extent Paragraph 606 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies Paragraph 606.

607. Samsung denies the allegations of Paragraph 607.

608. To the extent Paragraph 608 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies Paragraph 608.

609. Samsung denies the allegations of Paragraph 609.

610. To the extent Paragraph 610 alleges legal conclusions, no response is required. To the extent a response is required, Samsung complies with South Korean law. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

611. To the extent Paragraph 611 alleges legal conclusions, no response is required. To the extent a response is required, when SEC takes a license to a U.S. company's intellectual property, SEC withholds tax according to South Korean tax law. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

612. To the extent Paragraph 612 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies Paragraph 612.

613. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 613 because they are vague and indefinite, including in their use of undefined terms such as "Samsung employees" and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 613.

614. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 614 because they are vague and indefinite, including in their use of undefined terms such as "Samsung employees" and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 614.

615. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 615 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 615.

616. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 616 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 616.

617. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 617 because they are vague and indefinite, including in their use of undefined terms such as “Samsung employees” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 617.

618. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 618 because they are vague and indefinite, including in their use of undefined terms such as “Samsung entities” and on that basis denies them. Samsung denies the remainder of the allegations in Paragraph 618.

619. Admitted.

620. Admitted.

621. Samsung denies the allegations of Paragraph 621.

**K. Samsung Electronics Co., Ltd.’s Vicarious Liability**

622. To the extent Paragraph 622 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 622.

623. Samsung denies the allegations of Paragraph 623.

624. Samsung denies the allegations of Paragraph 624.

- 625. Samsung denies the allegations of Paragraph 625.
- 626. Samsung denies the allegations of Paragraph 626.
- 627. Samsung denies the allegations of Paragraph 627.
- 628. Samsung denies the allegations of Paragraph 628.
- 629. Samsung denies the allegations of Paragraph 629.
- 630. Samsung denies the allegations of Paragraph 630.
- 631. Samsung denies the allegations of Paragraph 631.
- 632. Samsung denies the allegations of Paragraph 632.
- 633. Samsung denies the allegations of Paragraph 633.
- 634. Samsung denies the allegations of Paragraph 634.
- 635. Samsung denies the allegations of Paragraph 635.
- 636. Samsung denies the allegations of Paragraph 636.
- 637. Samsung denies the allegations of Paragraph 637.
- 638. Samsung denies the allegations of Paragraph 638.
- 639. Samsung denies the allegations of Paragraph 639.
- 640. Samsung denies the allegations of Paragraph 640.
- 641. Samsung denies the allegations of Paragraph 641.
- 642. Samsung denies the allegations of Paragraph 642.
- 643. Samsung denies the allegations of Paragraph 643.
- 644. Samsung denies the allegations of Paragraph 644.
- 645. Samsung denies the allegations of Paragraph 645.
- 646. Samsung denies the allegations of Paragraph 646.
- 647. Samsung denies the allegations of Paragraph 647.

- 648. Samsung denies the allegations of Paragraph 648.
- 649. Samsung denies the allegations of Paragraph 649.
- 650. Samsung denies the allegations of Paragraph 650.
- 651. Samsung denies the allegations of Paragraph 651.
- 652. Samsung denies the allegations of Paragraph 652.
- 653. Samsung denies the allegations of Paragraph 653.
- 654. Samsung denies the allegations of Paragraph 654.
- 655. Samsung denies the allegations of Paragraph 655.
- 656. Samsung denies the allegations of Paragraph 656.
- 657. Samsung denies the allegations of Paragraph 657.
- 658. Samsung denies the allegations of Paragraph 658.
- 659. Samsung denies the allegations of Paragraph 659.
- 660. Samsung denies the allegations of Paragraph 660.
- 661. Samsung denies the allegations of Paragraph 661.
- 662. Samsung denies the allegations of Paragraph 662.
- 663. Samsung denies the allegations of Paragraph 663.
- 664. Samsung denies the allegations of Paragraph 664.
- 665. Samsung denies the allegations of Paragraph 665.
- 666. Samsung denies the allegations of Paragraph 666.
- 667. Samsung denies the allegations of Paragraph 667.
- 668. Samsung denies the allegations of Paragraph 668.
- 669. Samsung denies the allegations of Paragraph 669.
- 670. Samsung denies the allegations of Paragraph 670.

671. Samsung denies the allegations of Paragraph 671.

672. Samsung denies the allegations of Paragraph 672.

673. Samsung denies the allegations of Paragraph 673.

674. Samsung denies the allegations of Paragraph 674.

**L. Samsung Electronics America, Inc.'s Vicarious Liability**

675. To the extent Paragraph 675 alleges legal conclusions, no response is required. To the extent a response is required, Samsung denies Paragraph 675.

676. Samsung denies the allegations of Paragraph 676.

677. Samsung denies the allegations of Paragraph 677.

678. Samsung denies the allegations of Paragraph 678.

679. Samsung denies the allegations of Paragraph 679.

680. Samsung denies the allegations of Paragraph 680.

681. Samsung denies the allegations of Paragraph 681.

682. Samsung denies the allegations of Paragraph 682.

683. Samsung denies the allegations of Paragraph 683.

684. Samsung denies the allegations of Paragraph 684.

685. Samsung denies the allegations of Paragraph 685.

686. Samsung denies the allegations of Paragraph 686.

687. Samsung denies the allegations of Paragraph 687.

688. Samsung denies the allegations of Paragraph 688.

689. Samsung denies the allegations of Paragraph 689.

690. Samsung denies the allegations of Paragraph 690.

691. Samsung denies the allegations of Paragraph 691.

692. Samsung denies the allegations of Paragraph 692.

- 693. Samsung denies the allegations of Paragraph 693.
- 694. Samsung denies the allegations of Paragraph 694.
- 695. Samsung denies the allegations of Paragraph 695.
- 696. Samsung denies the allegations of Paragraph 696.
- 697. Samsung denies the allegations of Paragraph 697.
- 698. Samsung denies the allegations of Paragraph 698.
- 699. Samsung denies the allegations of Paragraph 699.
- 700. Samsung denies the allegations of Paragraph 700.
- 701. Samsung denies the allegations of Paragraph 701.
- 702. Samsung denies the allegations of Paragraph 702.
- 703. Samsung denies the allegations of Paragraph 703.
- 704. Samsung denies the allegations of Paragraph 704.
- 705. Samsung denies the allegations of Paragraph 705.
- 706. Samsung denies the allegations of Paragraph 706.
- 707. Samsung denies the allegations of Paragraph 707.
- 708. Samsung denies the allegations of Paragraph 708.

#### **JURISDICTION AND VENUE**

709. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 709, Samsung denies the allegations.

710. Samsung admits that Radian's claims purport to be claims for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. & 1, et seq. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.



711. Samsung admits that this Court has subject matter jurisdiction over actions arising under 28 U.S.C. §§ 1331 and 1338(a). Except as expressly admitted, Samsung denies any remaining allegations in Paragraph 711.

712. Paragraph 712 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung, solely for the purposes of the present litigation, do not contest that the Court has personal jurisdiction over SEC and SEA. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

713. Samsung admits that in *Mobile Data Technologies LLC v. Samsung Elecs. Am., Inc. et al.*, No. 2:24-cv-00435, Dkt. 26 at ¶ 7 (E.D. Tex. Oct. 7, 2024); *Four Batons Wireless, LLC v. Samsung Elecs. Co., Ltd. et al.*, No. 2:24-cv-00284, Dkt. 24 at ¶ 8 (E.D. Tex. Aug. 19, 2024); and *Cerrence Operating Co. v. Samsung Elec. Co., Ltd. et al.*, No. 2:24-cv-00181-JRG, Dkt. 25 at ¶ 8 (E.D. Tex. July 10, 2024), Samsung did not contest personal jurisdiction solely for the purposes of those actions. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

714. Paragraph 714 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung does not contest, for the purposes of this action only, whether personal jurisdiction properly lies in this District. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement. Samsung denies the remaining allegations of Paragraph 714.

715. Samsung does not contest, for the purposes of this action only, whether personal jurisdiction properly lies in this District. Samsung specifically denies that it has committed,

induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement. Samsung denies the remaining allegations of Paragraph 715.

716. Samsung denies the allegations of Paragraph 716. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

717. Samsung denies the allegations of Paragraph 717. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

718. Samsung denies the allegations of Paragraph 718. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

719. Samsung denies the allegations of Paragraph 719. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

720. Samsung denies the allegations of Paragraph 720. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

721. Paragraph 721 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung, solely for the purposes of this litigation, do not contest that venue is proper in this District. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

722. Paragraph 722 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung, solely for the purposes of this litigation, do not contest

that venue is proper in this District. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

723. Samsung admits that it maintains offices at 6625 Excellence Way, Plano, Texas 75023. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

724. Samsung admits that in *Four Batons Wireless, LLC v. Samsung Elecs. Co., Ltd. et al.*, No. 2:24-cv-00284, Dkt. 24 at ¶ 15 (E.D. Tex. Aug. 19, 2024) and *Cerrence Operating Co. v. Samsung Elec. Co., Ltd. et al.*, No. 2:24-cv-00181-JRG, Dkt. 25 at ¶ 9 (E.D. Tex. July 10, 2024), Samsung did not contest that venue was proper in this District solely for purposes of those actions. Except as expressly admitted, Samsung denies any remaining allegations of this Paragraph.

725. Samsung denies the allegations of Paragraph 725. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

726. Samsung admits that SEA employees in the Plano, Texas office are responsible for the marketing, sale, and commercialization of certain Samsung branded products that SEA sells to customers in the United States.

727. Admitted.

728. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

729. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

730. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

731. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

732. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

733. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context.

734. Samsung denies the allegations of Paragraph 734.

735. Samsung denies the allegations of Paragraph 735.

**COUNT ONE: INFRINGEMENT OF THE '183 PATENT**

736. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 736, Samsung denies the allegations.

737. Samsung admits that what purports to be a copy of U.S. Patent No. 11,544,183 (the "'183 Patent") is attached to Plaintiff's Complaint as Exhibit A. Samsung admits that, on its face, the '183 patent is entitled, "Nonvolatile Memory Controller Host-Issued Address Delimited Erasure and Memory Controller Remapping of Host Address Space of Bad Blocks." The '183

patent states on its face that it issued on January 3, 2023. Samsung denies that the '183 patent was duly and legally issued.

738. Paragraph 738 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 738 and on that basis denies them.

739. Paragraph 739 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations in Paragraph 739.

740. Paragraph 740 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 740 and on that basis denies them.

741. To the extent that allegations in Paragraph 741 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 741 and on that basis denies them.

742. To the extent that allegations in Paragraph 742 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 742 purports to characterize the Asserted Patents as novel, Samsung denies that characterization. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 742 and on that basis denies them.

743. To the extent that allegations in Paragraph 743 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and

context. To the extent that the allegations in Paragraph 743 purports to characterize the Asserted Patents as novel or innovative, Samsung denies that characterization.

744. Samsung denies the allegations of Paragraph 744.

745. To the extent that allegations in Paragraph 745 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context.

746. Samsung denies the allegations of Paragraph 746.

747. Samsung denies the allegations of Paragraph 747.

748. Samsung denies the allegations of Paragraph 748.

749. Samsung denies the allegations of Paragraph 749.

750. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 750 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

751. Samsung denies the allegations of Paragraph 751.

752. Samsung denies the allegations of Paragraph 752.

753. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

754. Samsung denies the allegations of Paragraph 754.

755. Samsung denies the allegations of Paragraph 755.

756. Samsung denies the allegations of Paragraph 756.

757. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

758. Samsung denies the allegations of Paragraph 758.

759. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

760. Samsung denies the allegations of Paragraph 760.

761. Samsung denies the allegations of Paragraph 761.

762. Samsung denies the allegations of Paragraph 762.

763. Samsung denies the allegations of Paragraph 763.

764. Samsung states that the NVMe specifications speak for themselves.

- 765. Samsung states that the NVMe specifications speak for themselves.
- 766. Samsung states that the NVMe specifications speak for themselves.
- 767. Samsung states that the NVMe specifications speak for themselves.
- 768. Samsung states that the NVMe specifications speak for themselves.
- 769. Samsung denies the allegations of Paragraph 769.
- 770. Samsung states that the NVMe specifications speak for themselves.
- 771. Samsung states that the NVMe specifications speak for themselves.
- 772. Samsung states that the NVMe specifications speak for themselves.
- 773. Samsung denies the allegations of Paragraph 773.
- 774. Samsung denies the allegations of Paragraph 774.
- 775. Samsung denies the allegations of Paragraph 775.
- 776. Samsung denies the allegations of Paragraph 776.
- 777. Samsung denies the allegations of Paragraph 777.
- 778. Samsung states that the NVMe specifications speak for themselves.
- 779. Samsung states that the NVMe specifications speak for themselves.
- 780. Samsung denies the allegations of Paragraph 780.
- 781. Samsung denies the allegations of Paragraph 781.
- 782. Samsung denies the allegations of Paragraph 782.
- 783. Samsung denies the allegations of Paragraph 783.
- 784. Samsung denies the allegations of Paragraph 784.
- 785. Samsung denies the allegations of Paragraph 785.
- 786. Samsung denies the allegations of Paragraph 786.
- 787. Samsung denies the allegations of Paragraph 787.



- 788. Samsung denies the allegations of Paragraph 788.
- 789. Samsung denies the allegations of Paragraph 789.
- 790. Samsung denies the allegations of Paragraph 790.
- 791. Samsung denies the allegations of Paragraph 791.
- 792. Samsung denies the allegations of Paragraph 792.
- 793. Samsung denies the allegations of Paragraph 793.
- 794. Samsung denies the allegations of Paragraph 794.
- 795. Samsung denies the allegations of Paragraph 795.
- 796. Samsung denies the allegations of Paragraph 796.
- 797. Samsung denies the allegations of Paragraph 797.
- 798. Samsung denies the allegations of Paragraph 798.
- 799. Samsung denies the allegations of Paragraph 799.
- 800. Samsung denies the allegations of Paragraph 800.
- 801. Samsung denies the allegations of Paragraph 801.
- 802. Samsung denies the allegations of Paragraph 802.
- 803. Samsung denies the allegations of Paragraph 803.
- 804. Samsung denies the allegations of Paragraph 804.
- 805. Samsung denies the allegations of Paragraph 805.
- 806. Samsung denies the allegations of Paragraph 806.
- 807. Samsung denies the allegations of Paragraph 807.
- 808. Samsung denies the allegations of Paragraph 808.
- 809. Samsung denies the allegations of Paragraph 809.

810. Paragraph 810 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEC was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEC. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

811. Samsung denies the allegations of Paragraph 811.

812. Samsung denies the allegations of Paragraph 812.

813. Samsung denies the allegations of Paragraph 813.

814. Samsung denies the allegations of Paragraph 814.

815. Samsung denies the allegations of Paragraph 815.

816. Paragraph 816 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEA was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEA. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

817. Samsung denies the allegations of Paragraph 817.

818. Samsung denies the allegations of Paragraph 818.

819. Samsung denies the allegations of Paragraph 819.

820. Samsung denies the allegations of Paragraph 820.

821. Samsung denies the allegations of Paragraph 821.

822. Samsung denies the allegations of Paragraph 822.

823. Samsung denies the allegations of Paragraph 823.

824. Samsung denies the allegations of Paragraph 824.

825. Samsung denies the allegations of Paragraph 825.

826. Samsung denies the allegations of Paragraph 826.

827. Samsung denies the allegations of Paragraph 827.

828. Samsung denies the allegations of Paragraph 828.

829. Paragraph 829 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 829 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

830. Paragraph 830 alleges legal conclusions, and therefore, no response is required. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 830 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

831. Paragraph 831 alleges legal conclusions, and therefore, no response is required. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 831 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

832. Samsung denies the allegations of Paragraph 832.

833. Samsung denies the allegations of Paragraph 833.

**COUNT TWO: INFRINGEMENT OF THE '772 PATENT**

834. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 834, Samsung denies the allegations.

835. Samsung admits that what purports to be a copy of U.S. Patent No. 11,709,772 (the "'772 Patent") is attached to Plaintiff's Complaint as Exhibit B. Samsung admits that, on its face, the '772 patent is entitled, "Storage System with Multiplane Segments and Cooperative Flash Management." The '772 patent states on its face that it issued on July 25, 2023. Samsung denies that the '772 patent was duly and legally issued.

836. Paragraph 836 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 836 and on that basis denies them.

837. Paragraph 837 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 837 and on that basis denies them.

838. Paragraph 838 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 838 and on that basis denies them.

839. To the extent that allegations in Paragraph 839 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 839 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

840. To the extent that allegations in Paragraph 840 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and

context. To the extent that the allegations in Paragraph 840 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

841. To the extent that allegations in Paragraph 841 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 841 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

842. Samsung denies the allegations of Paragraph 842.

843. To the extent that allegations in Paragraph 843 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 843 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

844. Samsung denies the allegations of Paragraph 844.

845. Samsung denies the allegations of Paragraph 845.

846. Samsung denies the allegations of Paragraph 846.

847. Samsung denies the allegations of Paragraph 847.

848. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 848 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

849. Samsung denies the allegations of Paragraph 849.

850. Samsung denies the allegations of Paragraph 850.

851. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

852. Samsung denies the allegations of Paragraph 852.

853. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

854. Samsung denies the allegations of Paragraph 854.

855. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

856. Samsung denies the allegations of Paragraph 856.

857. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

858. Samsung denies the allegations of Paragraph 858.

859. Samsung denies the allegations of Paragraph 859.

860. Samsung denies the allegations of Paragraph 860.

861. Samsung denies the allegations of Paragraph 861.

862. Samsung denies the allegations of Paragraph 862.

863. Samsung denies the allegations of Paragraph 863.

864. Samsung denies the allegations of Paragraph 864.

865. Samsung denies the allegations of Paragraph 865.

866. Samsung states that the NVMe specifications speak for themselves.

867. Samsung denies the allegations of Paragraph 867.

868. Samsung denies the allegations of Paragraph 868.

869. Samsung denies the allegations of Paragraph 869.

870. Samsung denies the allegations of Paragraph 870.

871. Samsung denies the allegations of Paragraph 871.

872. Samsung denies the allegations of Paragraph 872.

873. Samsung denies the allegations of Paragraph 873.

874. Samsung states that the NVMe specifications speak for themselves.

875. Samsung states that the NVMe specifications speak for themselves.

876. Samsung denies the allegations of Paragraph 876.

877. Samsung denies the allegations of Paragraph 877.

878. Samsung denies the allegations of Paragraph 878.

879. Samsung denies the allegations of Paragraph 879.

880. Samsung denies the allegations of Paragraph 880.

881. Samsung denies the allegations of Paragraph 881.

882. Samsung denies the allegations of Paragraph 882.

883. Samsung denies the allegations of Paragraph 883.

884. Samsung denies the allegations of Paragraph 884.

885. Samsung denies the allegations of Paragraph 885.

886. Samsung denies the allegations of Paragraph 886.

887. Samsung denies the allegations of Paragraph 887.

888. Samsung denies the allegations of Paragraph 888.

889. Samsung denies the allegations of Paragraph 889.

890. Samsung denies the allegations of Paragraph 890.

891. Samsung denies the allegations of Paragraph 891.

892. Samsung denies the allegations of Paragraph 892.

893. Samsung denies the allegations of Paragraph 893.

894. Samsung denies the allegations of Paragraph 894.

895. Samsung denies the allegations of Paragraph 895.

896. Samsung denies the allegations of Paragraph 896.



897. Samsung denies the allegations of Paragraph 897.

898. Samsung denies the allegations of Paragraph 898.

899. Samsung denies the allegations of Paragraph 899.

900. Samsung denies the allegations of Paragraph 900.

901. Paragraph 901 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEC was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEC. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

902. Samsung denies the allegations of Paragraph 902.

903. Samsung denies the allegations of Paragraph 903.

904. Samsung denies the allegations of Paragraph 904.

905. Samsung denies the allegations of Paragraph 905.

906. Samsung denies the allegations of Paragraph 906.

907. Paragraph 907 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEA was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEA. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

908. Samsung denies the allegations of Paragraph 908.

909. Samsung denies the allegations of Paragraph 909.

910. Samsung denies the allegations of Paragraph 910.

911. Samsung denies the allegations of Paragraph 911.

912. Samsung denies the allegations of Paragraph 912.

913. Samsung denies the allegations of Paragraph 913.

914. Samsung denies the allegations of Paragraph 914.

915. Samsung denies the allegations of Paragraph 915.

916. Samsung denies the allegations of Paragraph 916.

917. Samsung denies the allegations of Paragraph 917.

918. Samsung denies the allegations of Paragraph 918.

919. Samsung denies the allegations of Paragraph 919.

920. Paragraph 920 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 920. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

921. Paragraph 921 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 921. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

922. Paragraph 922 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 922. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

923. Samsung denies the allegations of Paragraph 923.

924. Samsung denies the allegations of Paragraph 924.

**COUNT THREE: INFRINGEMENT OF THE '614 PATENT**

925. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 925, Samsung denies the allegations.

926. Samsung admits that what purports to be a copy of U.S. Patent No. 11,681,614 (the "'614 Patent") is attached to Plaintiff's Complaint as Exhibit C. Samsung admits that, on its face, the '614 patent is entitled, "Storage Device with Subdivisions, Subdivision Query, and Write Operations." The '614 patent states on its face that it issued on June 20, 2023. Samsung denies that the '614 patent was duly and legally issued.

927. Paragraph 927 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 927 and on that basis denies them.

928. Paragraph 928 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations in Paragraph 928.

929. Paragraph 929 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 929 and on that basis denies them.

930. To the extent that allegations in Paragraph 930 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 930 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

931. To the extent that allegations in Paragraph 931 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and

context. To the extent that the allegations in Paragraph 931 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

932. To the extent that allegations in Paragraph 932 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 932 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

933. Samsung denies the allegations of Paragraph 933.

934. To the extent that allegations in Paragraph 934 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context.

935. Samsung denies the allegations of Paragraph 935.

936. Samsung denies the allegations of Paragraph 936.

937. Samsung denies the allegations of Paragraph 937.

938. Samsung denies the allegations of Paragraph 938.

939. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 939 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

940. Samsung denies the allegations of Paragraph 940.

941. Samsung denies the allegations of Paragraph 941.

942. Samsung denies the allegations of Paragraph 942.

943. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best

source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

944. Samsung denies the allegations of Paragraph 944.

945. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

946. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

947. Samsung denies the allegations of Paragraph 947.

948. Samsung states that the NVMe specifications speak for themselves.

949. Samsung denies the allegations of Paragraph 949.

- 950. Samsung states that the NVMe specifications speak for themselves.
- 951. Samsung denies the allegations of Paragraph 951.
- 952. Samsung denies the allegations of Paragraph 952.
- 953. Samsung states that the NVMe specifications speak for themselves.
- 954. Samsung denies the allegations of Paragraph 954.
- 955. Samsung states that the NVMe specifications speak for themselves.
- 956. Samsung denies the allegations of Paragraph 956.
- 957. Samsung denies the allegations of Paragraph 957.
- 958. Samsung denies the allegations of Paragraph 958.
- 959. Samsung states that the NVMe specifications speak for themselves.
- 960. Samsung states that the NVMe specifications speak for themselves.
- 961. Samsung denies the allegations of Paragraph 961.
- 962. Samsung denies the allegations of Paragraph 962.
- 963. Samsung denies the allegations of Paragraph 963.
- 964. Samsung denies the allegations of Paragraph 964.
- 965. Samsung denies the allegations of Paragraph 965.
- 966. Samsung denies the allegations of Paragraph 966.
- 967. Samsung denies the allegations of Paragraph 967.
- 968. Samsung denies the allegations of Paragraph 968.
- 969. Samsung denies the allegations of Paragraph 969.
- 970. Samsung denies the allegations of Paragraph 970.
- 971. Samsung denies the allegations of Paragraph 971.
- 972. Samsung denies the allegations of Paragraph 972.

973. Samsung denies the allegations of Paragraph 973.

974. Samsung denies the allegations of Paragraph 974.

975. Samsung denies the allegations of Paragraph 975.

976. Samsung denies the allegations of Paragraph 976.

977. Samsung denies the allegations of Paragraph 977.

978. Samsung denies the allegations of Paragraph 978.

979. Samsung denies the allegations of Paragraph 979.

980. Samsung denies the allegations of Paragraph 980.

981. Samsung denies the allegations of Paragraph 981.

982. Samsung denies the allegations of Paragraph 982.

983. Samsung denies the allegations of Paragraph 983.

984. Samsung denies the allegations of Paragraph 984.

985. Samsung denies the allegations of Paragraph 985.

986. Samsung denies the allegations of Paragraph 986.

987. Samsung denies the allegations of Paragraph 987.

988. Samsung denies the allegations of Paragraph 988.

989. Samsung denies the allegations of Paragraph 989.

990. Samsung denies the allegations of Paragraph 990.

991. Samsung denies the allegations of Paragraph 991.

992. Samsung denies the allegations of Paragraph 992.

993. Paragraph 993 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEC was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEC. Samsung

specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

994. Samsung denies the allegations of Paragraph 994.

995. Samsung denies the allegations of Paragraph 995.

996. Samsung denies the allegations of Paragraph 996.

997. Samsung denies the allegations of Paragraph 997.

998. Samsung denies the allegations of Paragraph 998.

999. Paragraph 999 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEA was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEA. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1000. Samsung denies the allegations of Paragraph 1000.

1001. Samsung denies the allegations of Paragraph 1001.

1002. Samsung denies the allegations of Paragraph 1002.

1003. Samsung denies the allegations of Paragraph 1003.

1004. Samsung denies the allegations of Paragraph 1004.

1005. Samsung denies the allegations of Paragraph 1005.

1006. Samsung denies the allegations of Paragraph 1006.

1007. Samsung denies the allegations of Paragraph 1007.

1008. Samsung denies the allegations of Paragraph 1008.

1009. Samsung denies the allegations of Paragraph 1009.

1010. Samsung denies the allegations of Paragraph 1010.



1011. Samsung denies the allegations of Paragraph 1011.

1012. Paragraph 1012 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1012 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1013. Paragraph 1013 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1013 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1014. Paragraph 1014 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1014 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1015. Samsung denies the allegations of Paragraph 1015.

1016. Samsung denies the allegations of Paragraph 1016.

**COUNT FOUR: INFRINGEMENT OF THE '801 PATENT**

1017. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 1017, Samsung denies the allegations.

1018. Samsung admits that what purports to be a copy of U.S. Patent No. 11,740,801 (the "'801 Patent") is attached to Plaintiff's Complaint as Exhibit D. Samsung admits that the '801 patent states on its face field (54) "Cooperative Flash Management of Storage Device Subdivisions." The '801 patent states on its face field (45) Date of Patent: Aug. 29, 2023. The '801 patent lists on its face field (72) Inventors: Andrey V. Kuzmin, Moscow (RU); Alan Chen, Simi Valley, CA (US); Robert Lercari, Thousand Oaks, CA (US). Samsung denies that the '801 patent was duly and legally issued.

1019. Paragraph 1019 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1019 and on that basis denies them.

1020. Paragraph 1020 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations in Paragraph 1020.

1021. Paragraph 1021 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1021 and on that basis denies them.

1022. To the extent that allegations in Paragraph 1022 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1022 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1023. To the extent that allegations in Paragraph 1023 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1023 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1024. To the extent that allegations in Paragraph 1024 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1024 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1025. Samsung denies the allegations of Paragraph 1025.

1026. To the extent that allegations in Paragraph 1026 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1026 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1027. Samsung denies the allegations of Paragraph 1027.

1028. Samsung denies the allegations of Paragraph 1028.

1029. Samsung denies the allegations of Paragraph 1029.

1030. Samsung denies the allegations of Paragraph 1030.

1031. Paragraph 1031 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations of Paragraph 1031. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1032. Samsung denies the allegations of Paragraph 1032.

1033. Samsung denies the allegations of Paragraph 1033.

1034. Samsung denies the allegations of Paragraph 1034.

1035. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1036. Samsung denies the allegations of Paragraph 1036.

1037. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1038. Samsung denies the allegations of Paragraph 1038.

1039. Samsung denies the allegations of Paragraph 1039.

1040. Samsung denies the allegations of Paragraph 1040.

1041. Samsung denies the allegations of Paragraph 1041.

1042. Samsung denies the allegations of Paragraph 1042.

1043. Samsung states that the NVMe specifications speak for themselves.

1044. Samsung states that the NVMe specifications speak for themselves.

1045. Samsung states that the NVMe specifications speak for themselves.

- 1046. Samsung states that the NVMe specifications speak for themselves.
- 1047. Samsung states that the NVMe specifications speak for themselves.
- 1048. Samsung states that the NVMe specifications speak for themselves.
- 1049. Samsung denies the allegations of Paragraph 1049.
- 1050. Samsung states that the NVMe specifications speak for themselves.
- 1051. Samsung states that the NVMe specifications speak for themselves.
- 1052. Samsung states that the NVMe specifications speak for themselves.
- 1053. Samsung denies the allegations of Paragraph 1053.
- 1054. Samsung denies the allegations of Paragraph 1054.
- 1055. Samsung denies the allegations of Paragraph 1055.
- 1056. Samsung states that the NVMe specifications speak for themselves.
- 1057. Samsung denies the allegations of Paragraph 1057.
- 1058. Samsung denies the allegations of Paragraph 1058.
- 1059. Samsung denies the allegations of Paragraph 1059.
- 1060. Samsung denies the allegations of Paragraph 1060.
- 1061. Samsung denies the allegations of Paragraph 1061.
- 1062. Samsung denies the allegations of Paragraph 1062.
- 1063. Samsung denies the allegations of Paragraph 1063.
- 1064. Samsung denies the allegations of Paragraph 1064.
- 1065. Samsung denies the allegations of Paragraph 1065.
- 1066. Samsung denies the allegations of Paragraph 1066.
- 1067. Samsung denies the allegations of Paragraph 1067.
- 1068. Samsung denies the allegations of Paragraph 1068.

1069. Samsung states that the NVMe specifications speak for themselves.

1070. Samsung denies the allegations of Paragraph 1070.

1071. Samsung denies the allegations of Paragraph 1071.

1072. Samsung denies the allegations of Paragraph 1072.

1073. Samsung denies the allegations of Paragraph 1073.

1074. Samsung denies the allegations of Paragraph 1074.

1075. Samsung denies the allegations of Paragraph 1075.

1076. Samsung denies the allegations of Paragraph 1076.

1077. Samsung denies the allegations of Paragraph 1077.

1078. Samsung denies the allegations of Paragraph 1078.

1079. Samsung denies the allegations of Paragraph 1079.

1080. Samsung denies the allegations of Paragraph 1080.

1081. Samsung denies the allegations of Paragraph 1081.

1082. Samsung denies the allegations of Paragraph 1082.

1083. Samsung denies the allegations of Paragraph 1083.

1084. Samsung denies the allegations of Paragraph 1084.

1085. Samsung denies the allegations of Paragraph 1085.

1086. Samsung denies the allegations of Paragraph 1086.

1087. Samsung denies the allegations of Paragraph 1087.

1088. Samsung denies the allegations of Paragraph 1088.

1089. Samsung denies the allegations of Paragraph 1089.

1090. Samsung denies the allegations of Paragraph 1090.

1091. Samsung denies the allegations of Paragraph 1091.

1092. Samsung denies the allegations of Paragraph 1092.

1093. Samsung denies the allegations of Paragraph 1093.

1094. Samsung denies the allegations of Paragraph 1094.

1095. Samsung denies the allegations of Paragraph 1095.

1096. Paragraph 1096 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung admits that SEC was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEC. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1097. Samsung denies the allegations of Paragraph 1097.

1098. Samsung denies the allegations of Paragraph 1098.

1099. Samsung denies the allegations of Paragraph 1099.

1100. Samsung denies the allegations of Paragraph 1100.

1101. Samsung denies the allegations of Paragraph 1101.

1102. Paragraph 1102 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung admits that SEA was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEA. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1103. Samsung denies the allegations of Paragraph 1103.

1104. Samsung denies the allegations of Paragraph 1104.

1105. Samsung denies the allegations of Paragraph 1105.

1106. Samsung denies the allegations of Paragraph 1106.

1107. Samsung denies the allegations of Paragraph 1107.

1108. Samsung denies the allegations of Paragraph 1108.

1109. Samsung denies the allegations of Paragraph 1109.

1110. Samsung denies the allegations of Paragraph 1110.

1111. Samsung denies the allegations of Paragraph 1111.

1112. Samsung denies the allegations of Paragraph 1112.

1113. Samsung denies the allegations of Paragraph 1113.

1114. Samsung denies the allegations of Paragraph 1114.

1115. Paragraph 1115 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1115 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1116. Paragraph 1116 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1116 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1117. Paragraph 1117 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1117 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.



1118. Samsung denies the allegations of Paragraph 1118.

1119. Samsung denies the allegations of Paragraph 1119.

**COUNT FIVE – INFRINGEMENT OF THE '657 PATENT**

1120. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 1120, Samsung denies the allegations.

1121. Samsung admits that what purports to be a copy of U.S. Patent No. 11,347,657 (the “’657 Patent”) is attached to Plaintiff’s Complaint as Exhibit E. Samsung admits that, on its face, the ’657 patent is entitled, “Addressing Techniques for Write and Erase Operations in a Non-Volatile Storage Device.” The ’657 patent states on its face that it issued on May 31, 2022. Samsung denies that the ’657 patent was duly and legally issued.

1122. Paragraph 1122 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1122 and on that basis denies them.

1123. Paragraph 1123 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1123 and on that basis denies them.

1124. To the extent that allegations in Paragraph 1124 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1124 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1125. To the extent that allegations in Paragraph 1125 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and

context. To the extent that the allegations in Paragraph 1125 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1126. To the extent that allegations in Paragraph 1126 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1126 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1127. Samsung denies the allegations of Paragraph 1127.

1128. To the extent that allegations in Paragraph 1128 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1128 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1129. Samsung denies the allegations of Paragraph 1129.

1130. Samsung denies the allegations of Paragraph 1130.

1131. Samsung denies the allegations of Paragraph 1131.

1132. Samsung denies the allegations of Paragraph 1132.

1133. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1133 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1134. Samsung denies the allegations of Paragraph 1134.

1135. Samsung denies the allegations of Paragraph 1135.

1136. Samsung denies the allegations of Paragraph 1136.

1137. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1138. Samsung denies the allegations of Paragraph 1138.

1139. Samsung denies the allegations of Paragraph 1139.

1140. Samsung denies the allegations of Paragraph 1140.

1141. Samsung states that the NVMe specifications speak for themselves.

1142. Samsung states that the NVMe specifications speak for themselves.

1143. Samsung states that the NVMe specifications speak for themselves.

1144. Samsung states that the NVMe specifications speak for themselves.

1145. Samsung states that the NVMe specifications speak for themselves.

1146. Samsung states that the NVMe specifications speak for themselves.

1147. Samsung denies the allegations of Paragraph 1147.

1148. Samsung states that the NVMe specifications speak for themselves.

1149. Samsung states that the NVMe specifications speak for themselves.

1150. Samsung states that the NVMe specifications speak for themselves.

1151. Samsung denies the allegations of Paragraph 1151.

1152. Samsung denies the allegations of Paragraph 1152.

1153. Samsung denies the allegations of Paragraph 1153.

- 1154. Samsung denies the allegations of Paragraph 1154.
- 1155. Samsung denies the allegations of Paragraph 1155.
- 1156. Samsung denies the allegations of Paragraph 1156.
- 1157. Samsung denies the allegations of Paragraph 1157.
- 1158. Samsung denies the allegations of Paragraph 1158.
- 1159. Samsung denies the allegations of Paragraph 1159.
- 1160. Samsung denies the allegations of Paragraph 1160.
- 1161. Samsung denies the allegations of Paragraph 1161.
- 1162. Samsung denies the allegations of Paragraph 1162.
- 1163. Samsung denies the allegations of Paragraph 1163.
- 1164. Samsung denies the allegations of Paragraph 1164.
- 1165. Samsung denies the allegations of Paragraph 1165.
- 1166. Samsung denies the allegations of Paragraph 1166.
- 1167. Samsung denies the allegations of Paragraph 1167.
- 1168. Samsung denies the allegations of Paragraph 1168.
- 1169. Samsung denies the allegations of Paragraph 1169.
- 1170. Samsung denies the allegations of Paragraph 1170.
- 1171. Samsung denies the allegations of Paragraph 1171.
- 1172. Samsung denies the allegations of Paragraph 1172.
- 1173. Samsung denies the allegations of Paragraph 1173.
- 1174. Samsung denies the allegations of Paragraph 1174.
- 1175. Samsung denies the allegations of Paragraph 1175.
- 1176. Samsung denies the allegations of Paragraph 1176.

1177. Samsung denies the allegations of Paragraph 1177.

1178. Samsung denies the allegations of Paragraph 1178.

1179. Samsung denies the allegations of Paragraph 1179.

1180. Samsung denies the allegations of Paragraph 1180.

1181. Samsung denies the allegations of Paragraph 1181.

1182. Samsung denies the allegations of Paragraph 1182.

1183. Samsung denies the allegations of Paragraph 1183.

1184. Samsung denies the allegations of Paragraph 1184.

1185. Samsung denies the allegations of Paragraph 1185.

1186. Samsung denies the allegations of Paragraph 1186.

1187. Samsung denies the allegations of Paragraph 1187.

1188. Samsung denies the allegations of Paragraph 1188.

1189. Samsung denies the allegations of Paragraph 1189.

1190. Paragraph 1190 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung admits that SEC was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEC. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1191. Samsung denies the allegations of Paragraph 1191.

1192. Samsung denies the allegations of Paragraph 1192.

1193. Samsung denies the allegations of Paragraph 1193.

1194. Samsung denies the allegations of Paragraph 1194.

1195. Samsung denies the allegations of Paragraph 1195.

1196. Paragraph 1196 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEA was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEA. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1197. Samsung denies the allegations of Paragraph 1197.

1198. Samsung denies the allegations of Paragraph 1198.

1199. Samsung denies the allegations of Paragraph 1199.

1200. Samsung denies the allegations of Paragraph 1200.

1201. Samsung denies the allegations of Paragraph 1201.

1202. Samsung denies the allegations of Paragraph 1202.

1203. Samsung denies the allegations of Paragraph 1203.

1204. Samsung denies the allegations of Paragraph 1204.

1205. Samsung denies the allegations of Paragraph 1205.

1206. Samsung denies the allegations of Paragraph 1206.

1207. Samsung denies the allegations of Paragraph 1207.

1208. Samsung denies the allegations of Paragraph 1208.

1209. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1209 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1210. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1210 and on that basis denies them. Samsung specifically

denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1211. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1211 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1212. Samsung denies the allegations of Paragraph 1212.

1213. Samsung denies the allegations of Paragraph 1213.

**COUNT SIX: INFRINGEMENT OF THE '656 PATENT**

1214. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 1214, Samsung denies the allegations.

1215. Samsung admits that what purports to be a copy of U.S. Patent No. 11,347,656 (the “’656 Patent”) is attached to Plaintiff’s Complaint as Exhibit F. Samsung admits that, on its face, the ’656 patent is entitled, “Storage Drive with Geometry Emulation Based on Division Addressing and Decoupled Bad Block Management.” The ’656 patent states on its face that it issued on May 31, 2022. Samsung denies that the ’656 patent was duly and legally issued.

1216. Paragraph 1216 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1216 and on that basis denies them.

1217. Paragraph 1217 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1217 and on that basis denies them.

1218. To the extent that allegations in Paragraph 1218 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1218 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1219. To the extent that allegations in Paragraph 1219 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1219 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1220. To the extent that allegations in Paragraph 1220 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1220 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1221. Samsung denies the allegations of Paragraph 1221.

1222. To the extent that allegations in Paragraph 1222 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1222 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1223. Samsung denies the allegations of Paragraph 1223.

1224. Samsung denies the allegations of Paragraph 1224.

1225. Samsung denies the allegations of Paragraph 1225.

1226. Samsung denies the allegations of Paragraph 1226.

1227. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1227 and on that basis denies them. Samsung specifically



denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1228. Samsung denies the allegations of Paragraph 1228.

1229. Samsung denies the allegations of Paragraph 1229.

1230. Samsung denies the allegations of Paragraph 1230.

1231. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1232. Samsung denies the allegations of Paragraph 1232.

1233. Samsung denies the allegations of Paragraph 1233.

1234. Samsung denies the allegations of Paragraph 1234.

1235. Samsung states that the NVMe specifications speak for themselves.

1236. Samsung states that the NVMe specifications speak for themselves.

1237. Samsung states that the NVMe specifications speak for themselves.

1238. Samsung states that the NVMe specifications speak for themselves.

1239. Samsung states that the NVMe specifications speak for themselves.

1240. Samsung states that the NVMe specifications speak for themselves.

1241. Samsung denies the allegations of Paragraph 1241.

1242. Samsung denies the allegations of Paragraph 1242.

- 1243. Samsung denies the allegations of Paragraph 1243.
- 1244. Samsung denies the allegations of Paragraph 1244.
- 1245. Samsung denies the allegations of Paragraph 1245.
- 1246. Samsung denies the allegations of Paragraph 1246.
- 1247. Samsung denies the allegations of Paragraph 1247.
- 1248. Samsung denies the allegations of Paragraph 1248.
- 1249. Samsung denies the allegations of Paragraph 1249.
- 1250. Samsung denies the allegations of Paragraph 1250.
- 1251. Samsung denies the allegations of Paragraph 1251.
- 1252. Samsung denies the allegations of Paragraph 1252.
- 1253. Samsung denies the allegations of Paragraph 1253.
- 1254. Samsung denies the allegations of Paragraph 1254.
- 1255. Samsung denies the allegations of Paragraph 1255.
- 1256. Samsung denies the allegations of Paragraph 1256.
- 1257. Samsung denies the allegations of Paragraph 1257.
- 1258. Samsung denies the allegations of Paragraph 1258.
- 1259. Samsung denies the allegations of Paragraph 1259.
- 1260. Samsung denies the allegations of Paragraph 1260.
- 1261. Samsung denies the allegations of Paragraph 1261.
- 1262. Samsung denies the allegations of Paragraph 1262.
- 1263. Samsung denies the allegations of Paragraph 1263.
- 1264. Samsung denies the allegations of Paragraph 1264.
- 1265. Samsung denies the allegations of Paragraph 1265.

1266. Samsung denies the allegations of Paragraph 1266.

1267. Samsung denies the allegations of Paragraph 1267.

1268. Samsung denies the allegations of Paragraph 1268.

1269. Samsung denies the allegations of Paragraph 1269.

1270. Samsung denies the allegations of Paragraph 1270.

1271. Samsung denies the allegations of Paragraph 1271.

1272. Samsung denies the allegations of Paragraph 1272.

1273. Samsung denies the allegations of Paragraph 1273.

1274. Samsung denies the allegations of Paragraph 1274.

1275. Samsung denies the allegations of Paragraph 1275.

1276. Samsung denies the allegations of Paragraph 1276.

1277. Samsung denies the allegations of Paragraph 1277.

1278. Samsung denies the allegations of Paragraph 1278.

1279. Paragraph 1279 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung admits that SEC was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEC. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1280. Samsung denies the allegations of Paragraph 1280.

1281. Samsung denies the allegations of Paragraph 1281.

1282. Samsung denies the allegations of Paragraph 1282.

1283. Samsung denies the allegations of Paragraph 1283.

1284. Samsung denies the allegations of Paragraph 1284.

1285. Paragraph 1285 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung admits that SEA was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEA. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1286. Samsung denies the allegations of Paragraph 1286.

1287. Samsung denies the allegations of Paragraph 1287.

1288. Samsung denies the allegations of Paragraph 1288.

1289. Samsung denies the allegations of Paragraph 1289.

1290. Samsung denies the allegations of Paragraph 1290.

1291. Samsung denies the allegations of Paragraph 1291.

1292. Samsung denies the allegations of Paragraph 1292.

1293. Samsung denies the allegations of Paragraph 1293.

1294. Samsung denies the allegations of Paragraph 1294.

1295. Samsung denies the allegations of Paragraph 1295.

1296. Samsung denies the allegations of Paragraph 1296.

1297. Samsung denies the allegations of Paragraph 1297.

1298. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1298 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1299. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1299 and on that basis denies them. Samsung specifically

denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1300. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1300 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1301. Samsung denies the allegations of Paragraph 1301.

1302. Samsung denies the allegations of Paragraph 1302.

**COUNT SEVEN: INFRINGEMENT OF THE '995 PATENT**

1303. Samsung repeats, realleges, and incorporates by reference, as fully set forth herein, its responses to the allegations set forth in the previous sections into the following section. To the extent that Radian sets forth any new allegations in Paragraph 1303, Samsung denies the allegations.

1304. Samsung admits that what purports to be a copy of U.S. Patent No. 11,307,995 (the "'995 Patent") is attached to Plaintiff's Complaint as Exhibit G. Samsung admits that, on its face, the '995 patent is entitled, "Storage Device With Geometry Emulation Based on Division Programming and Decoupled NAND Maintenance." The '995 patent states on its face that it issued on April 19, 2022. Samsung denies that the '995 patent was duly and legally issued.

1305. Paragraph 1305 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1305 and on that basis denies them.

1306. Paragraph 1306 alleges legal conclusions, and therefore, no response is required. To the extent a response is required, Samsung denies the allegations in Paragraph 1306.

1307. To the extent that allegations in Paragraph 1307 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1307 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1308. To the extent that allegations in Paragraph 1308 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context. To the extent that the allegations in Paragraph 1308 purports to characterize the Asserted Patents as innovative, Samsung denies that characterization.

1309. To the extent that allegations in Paragraph 1309 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context.

1310. Samsung denies the allegations of Paragraph 1310.

1311. To the extent that allegations in Paragraph 1311 purport to quote parts of the Asserted Patents, Samsung asserts that the patents are the best source of their full content and context.

1312. Samsung denies the allegations of Paragraph 1312.

1313. Samsung denies the allegations of Paragraph 1313.

1314. Samsung denies the allegations of Paragraph 1314.

1315. Samsung denies the allegations of Paragraph 1315.

1316. Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1316 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1317. Samsung denies the allegations of Paragraph 1317.

1318. Samsung denies the allegations of Paragraph 1318.

1319. Samsung denies the allegations of Paragraph 1319.

1320. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1321. Samsung denies the allegations of Paragraph 1321.

1322. Samsung denies the allegations of Paragraph 1322.

1323. Samsung denies the allegations of Paragraph 1323.

1324. Samsung states that the NVMe specifications speak for themselves.

1325. Samsung states that the NVMe specifications speak for themselves.

1326. Samsung denies the allegations of Paragraph 1326.

1327. To the extent the allegations in this Paragraph purport to describe or quote one or more documents or webpages, Samsung states that those documents or webpages are the best source of their full content and context. To the extent this Paragraph purports to describe Samsung products and/or services, the functionality of those products and services speak for themselves and will be subject to fact and expert discovery in this case. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

- 1328. Samsung states that the NVMe specifications speak for themselves.
- 1329. Samsung states that the NVMe specifications speak for themselves.
- 1330. Samsung states that the NVMe specifications speak for themselves.
- 1331. Samsung denies the allegations of Paragraph 1331.
- 1332. Samsung denies the allegations of Paragraph 1332.
- 1333. Samsung denies the allegations of Paragraph 1333.
- 1334. Samsung denies the allegations of Paragraph 1334.
- 1335. Samsung denies the allegations of Paragraph 1335.
- 1336. Samsung denies the allegations of Paragraph 1336.
- 1337. Samsung denies the allegations of Paragraph 1337.
- 1338. Samsung denies the allegations of Paragraph 1338.
- 1339. Samsung denies the allegations of Paragraph 1339.
- 1340. Samsung denies the allegations of Paragraph 1340.
- 1341. Samsung denies the allegations of Paragraph 1341.
- 1342. Samsung denies the allegations of Paragraph 1342.
- 1343. Samsung denies the allegations of Paragraph 1343.
- 1344. Samsung denies the allegations of Paragraph 1344.
- 1345. Samsung denies the allegations of Paragraph 1345.
- 1346. Samsung denies the allegations of Paragraph 1346.
- 1347. Samsung denies the allegations of Paragraph 1347.
- 1348. Samsung denies the allegations of Paragraph 1348.
- 1349. Samsung denies the allegations of Paragraph 1349.
- 1350. Samsung denies the allegations of Paragraph 1350.



- 1351. Samsung denies the allegations of Paragraph 1351.
- 1352. Samsung denies the allegations of Paragraph 1352.
- 1353. Samsung denies the allegations of Paragraph 1353.
- 1354. Samsung denies the allegations of Paragraph 1354.
- 1355. Samsung denies the allegations of Paragraph 1355.
- 1356. Samsung denies the allegations of Paragraph 1356.
- 1357. Samsung denies the allegations of Paragraph 1357.
- 1358. Samsung denies the allegations of Paragraph 1358.
- 1359. Samsung denies the allegations of Paragraph 1359.
- 1360. Samsung denies the allegations of Paragraph 1360.
- 1361. Samsung denies the allegations of Paragraph 1361.
- 1362. Samsung denies the allegations of Paragraph 1362.
- 1363. Samsung denies the allegations of Paragraph 1363.
- 1364. Samsung denies the allegations of Paragraph 1364.
- 1365. Samsung denies the allegations of Paragraph 1365.
- 1366. Samsung denies the allegations of Paragraph 1366.
- 1367. Samsung denies the allegations of Paragraph 1367.
- 1368. Samsung denies the allegations of Paragraph 1368.
- 1369. Samsung denies the allegations of Paragraph 1369.
- 1370. Samsung denies the allegations of Paragraph 1370.
- 1371. Samsung denies the allegations of Paragraph 1371.
- 1372. Samsung denies the allegations of Paragraph 1372.
- 1373. Samsung denies the allegations of Paragraph 1373.

1374. Samsung denies the allegations of Paragraph 1374.

1375. Paragraph 1375 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung admits that SEC was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEC. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1376. Samsung denies the allegations of Paragraph 1376.

1377. Samsung denies the allegations of Paragraph 1377.

1378. Samsung denies the allegations of Paragraph 1378.

1379. Samsung denies the allegations of Paragraph 1379.

1380. Samsung denies the allegations of Paragraph 1380.

1381. Paragraph 1381 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung admits that SEA was aware of Radian's Asserted Patent and infringement allegations at least as of when the Complaint was served on SEA. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1382. Samsung denies the allegations of Paragraph 1382.

1383. Samsung denies the allegations of Paragraph 1383.

1384. Samsung denies the allegations of Paragraph 1384.

1385. Samsung denies the allegations of Paragraph 1385.

1386. Samsung denies the allegations of Paragraph 1386.

1387. Samsung denies the allegations of Paragraph 1387.

1388. Samsung denies the allegations of Paragraph 1388.

1389. Samsung denies the allegations of Paragraph 1389.

1390. Samsung denies the allegations of Paragraph 1390.

1391. Samsung denies the allegations of Paragraph 1391.

1392. Samsung denies the allegations of Paragraph 1392.

1393. Samsung denies the allegations of Paragraph 1393.

1394. Paragraph 1394 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1394 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1395. Paragraph 1395 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1395 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1396. Paragraph 1396 alleges legal conclusions, and therefore, no response is required.

To the extent a response is required, Samsung is without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1396 and on that basis denies them. Samsung specifically denies that it has committed, induced, or contributed to any acts of infringement in this District or any other district and denies all allegations of patent infringement.

1397. Samsung denies the allegations of Paragraph 1397.

1398. Samsung denies the allegations of Paragraph 1398.

**PRAYER FOR RELIEF**

Samsung denies that Radian is entitled to any of the relief requested in the section of the Complaint entitled “Prayer for Relief,” or any relief in any form from either the Court or from Samsung. Radian’s Prayer for Relief should, therefore, be denied in its entirety and with prejudice, and Radian should take nothing. To the extent any statement in the Relief Requested is deemed factual, it is denied.

**JURY TRIAL DEMANDED**

Samsung admits that Radian sets forth a demand for a trial by jury. Samsung likewise demands a trial by jury on all issues so triable raised by the Complaint or by Samsung’s Answer pursuant to Rule 38 of the Federal Rules of Civil Procedure.

\* \* \* \* \*

### **AFFIRMATIVE AND OTHER DEFENSES**

Upon information and belief, and subject to its responses above, Samsung alleges and asserts the following defenses in response to the allegations of the Complaint, without admitting or acknowledging that Samsung bears the burden of proof as to any of them or that any must be pleaded as defenses. Regardless of how such defenses are listed herein, Samsung undertakes the burden of proof only as to those defenses that are deemed affirmative defenses as a matter of law. Samsung expressly reserves the right to amend or raise additional defenses pursuant to the Docket Control Order as additional information becomes available through further investigation and discovery.

#### **FIRST DEFENSE – NON-INFRINGEMENT OF THE '183 PATENT**

1. Samsung does not infringe and has not infringed the '183 patent directly, indirectly, literally, or under the doctrine of equivalents, or in any other manner, and is not liable for infringement of any valid and enforceable claim of the '183 patent.

#### **SECOND DEFENSE – NON-INFRINGEMENT OF THE '801 PATENT**

2. Samsung does not infringe and has not infringed the '801 patent directly, indirectly, literally, or under the doctrine of equivalents, or in any other manner, and is not liable for infringement of any valid and enforceable claim of the '801 patent.

#### **THIRD DEFENSE – NON-INFRINGEMENT OF THE '772 PATENT**

3. Samsung does not infringe and has not infringed the '772 patent directly, indirectly, literally, or under the doctrine of equivalents, or in any other manner, and is not liable for infringement of any valid and enforceable claim of the '772 patent.

**FOURTH DEFENSE – NON-INFRINGEMENT OF THE '614 PATENT**

4. Samsung does not infringe and has not infringed the '614 patent directly, indirectly, literally, or under the doctrine of equivalents, or in any other manner, and is not liable for infringement of any valid and enforceable claim of the '614 patent.

**FIFTH DEFENSE – NON-INFRINGEMENT OF THE '995 PATENT**

5. Samsung does not infringe and has not infringed the '995 patent directly, indirectly, literally, or under the doctrine of equivalents, or in any other manner, and is not liable for infringement of any valid and enforceable claim of the '995 patent.

**SIXTH DEFENSE – NON-INFRINGEMENT OF THE '656 PATENT**

6. Samsung does not infringe and has not infringed the '656 patent directly, indirectly, literally, or under the doctrine of equivalents, or in any other manner, and is not liable for infringement of any valid and enforceable claim of the '656 patent.

**SEVENTH DEFENSE – NON-INFRINGEMENT OF THE '657 PATENT**

7. Samsung does not infringe and has not infringed the '657 patent directly, indirectly, literally, or under the doctrine of equivalents, or in any other manner, and is not liable for infringement of any valid and enforceable claim of the '657 patent.

**EIGHTH DEFENSE – INVALIDITY OF THE '183 PATENT**

8. The claims of the '183 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, or any other applicable statutory provisions of Title 35 of the U.S. Code.

**NINTH DEFENSE – INVALIDITY OF THE '801 PATENT**

9. The claims of the '801 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, or any other applicable statutory provisions of Title 35 of the U.S. Code.

**TENTH DEFENSE – INVALIDITY OF THE '772 PATENT**

10. The claims of the '772 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, or any other applicable statutory provisions of Title 35 of the U.S. Code.

**ELEVENTH DEFENSE – INVALIDITY OF THE '614 PATENT**

11. The claims of the '614 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, or any other applicable statutory provisions of Title 35 of the U.S. Code.

**TWELFTH DEFENSE – INVALIDITY OF THE '995 PATENT**

12. The claims of the '995 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, or any other applicable statutory provisions of Title 35 of the U.S. Code.

**THIRTEENTH DEFENSE – INVALIDITY OF THE '656 PATENT**

13. The claims of the '656 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, or any other applicable statutory provisions of Title 35 of the U.S. Code.

**FOURTEENTH DEFENSE – INVALIDITY OF THE '657 PATENT**

14. The claims of the '657 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 101, 102, 103, 112, and/or 116, or any other applicable statutory provisions of Title 35 of the U.S. Code.

**FIFTEENTH DEFENSE – STATUTORY LIMIT ON DAMAGES**

15. Radian's claim for damages, equitable relief, and/or costs is statutorily limited by 35 U.S.C. §§ 286, 287, and/or 288.

**SIXTEENTH DEFENSE – NO WILLFUL INFRINGEMENT**

16. Radian is not entitled to enhanced or increased damages for willful infringement because Samsung has not engaged in any conduct that meets the applicable standard for willful infringement.

**SEVENTEENTH DEFENSE – NO EXCEPTIONAL CASE**

17. Radian cannot prove that this is an exceptional case justifying award of attorney's fees against Samsung pursuant to 35 U.S.C. § 285.

**EIGHTEENTH DEFENSE – WAIVER, EQUITABLE ESTOPPEL, ACQUIESCENCE, UNCLEAN HANDS**

18. Radian's claims are barred, in whole or in part, or its remedies limited, by the doctrines of waiver, implied waiver, equitable estoppel, acquiescence, and/or unclean hands.

**NINETEENTH DEFENSE – PROSECUTION HISTORY ESTOPPEL ('183 PATENT)**

19. Radian's claims for relief are barred in whole or in part by prosecution history estoppel and/or prosecution history disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers, and/or disavowals made by the applicants for the '183 patent.

**TWENTIETH DEFENSE – PROSECUTION HISTORY ESTOPPEL ('801 PATENT)**

20. Radian's claims for relief are barred in whole or in part by prosecution history estoppel and/or prosecution history disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers, and/or disavowals made by the applicants for the '801 patent.

**TWENTY FIRST DEFENSE – PROSECUTION HISTORY ESTOPPEL ('772 PATENT)**

21. Radian's claims for relief are barred in whole or in part by prosecution history estoppel and/or prosecution history disclaimer based on amendments, statements, admissions,



omissions, representations, disclaimers, and/or disavowals made by the applicants for the '772 patent.

**TWENTY SECOND DEFENSE – PROSECUTION HISTORY ESTOPPEL ('614 PATENT)**

22. Radian's claims for relief are barred in whole or in part by prosecution history estoppel and/or prosecution history disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers, and/or disavowals made by the applicants for the '614 patent.

**TWENTY THIRD DEFENSE – PROSECUTION HISTORY ESTOPPEL ('955 PATENT)**

23. Radian's claims for relief are barred in whole or in part by prosecution history estoppel and/or prosecution history disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers, and/or disavowals made by the applicants for the '955 patent.

**TWENTY FOURTH DEFENSE – PROSECUTION HISTORY ESTOPPEL ('656 PATENT)**

24. Radian's claims for relief are barred in whole or in part by prosecution history estoppel and/or prosecution history disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers, and/or disavowals made by the applicants for the '656 patent.

**TWENTY FIFTH DEFENSE – PROSECUTION HISTORY ESTOPPEL ('657 PATENT)**

25. Radian's claims for relief are barred in whole or in part by prosecution history estoppel and/or prosecution history disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers, and/or disavowals made by the applicants for the '657 patent.

**TWENTY SIXTH DEFENSE – LICENSE, IMPLIED LICENSE, EXHAUSTION**

26. Radian's claims for patent infringement are precluded, in whole or in part, by the doctrines of license, implied license, and/or exhaustion, including to the extent that any of the allegedly infringing conduct is premised on or related to products made, sold, used, imported, or provided by any licensed entity (whether express or implied) to the Asserted Patents.

**TWENTY SEVENTH DEFENSE – NO INJUNCTIVE RELIEF**

27. Radian's claims for relief are barred in whole or in part because Radian is not entitled to injunctive relief. Any alleged injury to Radian is not immediate or irreparable and Radian has an adequate remedy at law.

**TWENTY EIGHTH DEFENSE – FAILURE TO STATE A CLAIM**

28. The Complaint fails to state a claim upon which relief can be granted.

**TWENTY NINTH DEFENSE – STANDING/OWNERSHIP**

29. To the extent that Radian was not the sole and total owner of all substantial rights in any of the Asserted Patents as of the filing date of the Complaint, Radian lacks standing to bring one or more claims in this lawsuit.

**THIRTIETH DEFENSE – ACTIONS OF OTHERS**

30. On information and belief, Radian's claims are barred, in whole or in part, because Samsung is not liable for the acts of others over whom it has no control.

**THIRTY FIRST DEFENSE – PROSECUTION LACHES**

31. Radian's claims for relief are barred and unenforceable, in whole or in part, or its remedies limited, by the doctrine of laches.

**RESERVATION OF DEFENSES**

Discovery in this action has not yet commenced and Samsung continues to investigate the allegations set forth in the Complaint. Samsung hereby provides explicit notice to Radian that it

intends to rely upon such other defenses as may become available by law or in equity, or pursuant to statute, as discovery proceeds in this action, and hereby reserves the right to assert such additional defenses.

**DEMAND FOR JURY TRIAL**

In accordance with Rule 38 of the Federal Rules of Civil Procedure and Local Rule CV-38, Samsung respectfully demands a trial by jury on all issues so triable in this action.

Dated: April 7, 2025

By /s/ Melissa R. Smith

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via CM/ECF on April 7, 2025.

/s/ *Melissa R. Smith*

Melissa R. Smith